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AUGUST 2015

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The AMP ISSUE

POWER TRIP

A COMPREHENSIVE LOOK AT POWER TUBES & THEIR SIGNATURE SOUNDS



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BASS AMPS DEMYSTIFIED

13 GUITAR & BASS REVIEWS

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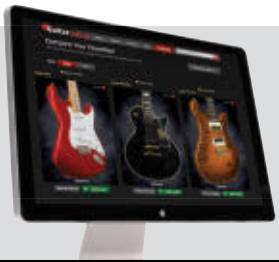
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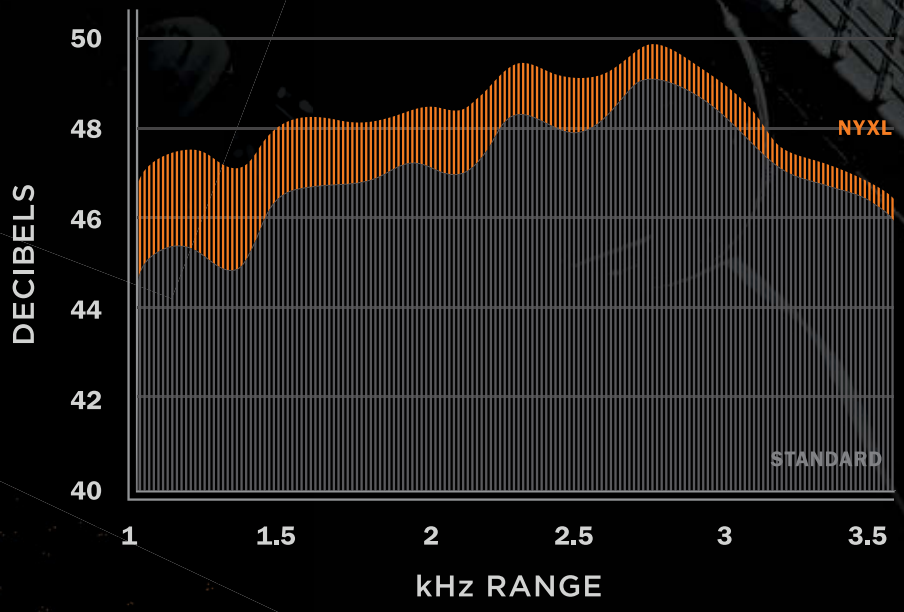
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Record or Die!

BY SHAWN HAMMOND

@PG_shawnh





Flip open a mag or click on a guitar-related article, Facebook post, YouTube video, or whatever, and you see the sagely advice everywhere.

"Just keep practicing, man."

"Always play with musicians who are better than you."

"You just gotta get out there and perform, dude."

Everyone's always telling us to sit in our jam spaces longer, gig at every opportunity, and surround ourselves with players who challenge us. And sure, it's good advice. But there's one thing none of that can offer you—a holistic, true view of the musical reality that you are but a bit player in. See, when you're honing your chops for hours on end, having an epic rehearsal jam, or killing it onstage, you're never stepping completely outside yourself. You're never zooming out to see how you fit into the bigger picture.

Even if you're a golden-eared, exceptionally aware bandmate who lives for exploring new musical directions on a dime, you're still the guy whose brain has to decide what to play, how to play it, and what sorts of on-the-fly tone adjustments might better fit the evolving mood.

But capture it for later playback, and your mind is free from those guitar-playing concerns and can view the soundscape from a more detached perspective. You can hear it more like everyone else. This is instructive in many ways. For starters, it reveals things that no amount of practice will: Tell your ego to take five, and you'll realize you often overplay, and that some tones you always thought were amazing tromp through the composition rather than deftly enhancing it—you're too loud, have too much gain, or use too much of an effect. You notice little quirks—maybe a tendency to scratch the strings in advance of full attack as you anticipate a new passage. You discover parts you originally thought weren't executed cleanly enough breathe an air of spontaneity into the tune. And a million other things good and bad.

This is just one of the wonderful new vantage points that recording opens you to. But myriad other intriguing views await—views that are only possible via multitrack recording. For instance, the challenging, addicting world of layering. Forget all that macho bullshit about first takes and only playing what you could play live. Are you a musician or an insecure egomaniac? Experiment with overlapping guitar tracks. Try crazy shit. Mess with shifting harmonies and rhythms that slither around or bash against each other. Layer tracks with different guitars or drastically different effects—or slyly stack tracks that are *almost* the same. Discover the joy of making people go, "Wait a second, what's going on here?" Claim the mood-shaping power that is yours by virtue of your guitar gear and the insanely affordable recording equipment springing up everywhere you look.

If you haven't already taken the plunge, it's time. Commit to foregoing your next couple of impulse pedal buys and purchase a digital-recording interface instead. Maybe sell an old guitar or amp you never use and buy something like an iPad or Chromebook—pound for pound, dollar for dollar, the cheapest, most powerful multitrack studios ever. Refrain from purchasing yet another guitar and buy a nice mic. You won't miss the old stuff, because the new studio gear will become your sonic scratchpad. Your mentor. Your audience. Your band. Your evil science lab. Before you know it, you'll start collecting crazy drum and keyboard apps and other stuff that enables you to create whole musical worlds you never dreamed possible. It's not that hard—and it's a hell of a lot of fun.

So what are you waiting for?



Shawn Hammond
Chief Content Officer
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Remembering a King

I'm subscribing right now. Just because of this.

—belowthesmile,
via Instagram

Just wanted to say what I thought when I looked at the July cover: "Class." B.B. and nothing else! Thanks for the best guitar magazine on the planet. Rest in peace Blues Boy.

—Michael Ferland,
via premierguitar.com

I was fortunate enough to see B.B. King and Freddie King at the San Diego Sports Arena in late 1972. First time I ever saw a blues singer/guitarist play live. Although I'm not a religious person, it is comforting to think of B.B. and Jimi Hendrix together somewhere in space and time. A great loss to the world of music.

—Michael McGlasson,
via premierguitar.com

I just opened my mailbox and saw the B.B. King cover on your July issue and my hats off to you guys. One of the things I like about *Premier Guitar* is that your cover stories tend to focus on the gear and you rarely play the celebrity cover photo game. But B.B. King is different and your cover photo, and related article, were the perfect tribute to the one and only King of the Blues! Good job guys—you made me proud.

—Mike McQuain,
via premierguitar.com

Instant Gratification

I want to say thank you *Premier Guitar* for these Rig Rundowns ["Rig Rundown: Slipknot," May 2015]. Growing up I would have to wait for my new monthly *Guitar For The Practicing Musician* in order to see rundowns and even then they weren't specific. So again, thank you.

—Thomas Ramsey,
via YouTube



Fantastic Rig Rundown ["Rig Rundown: Dashboard Confessional's Chris Carrabba," June 2105]—one of the best I've seen in quite some time. You can really tell Chris puts time and effort into choosing his words when discussing his gear.

—Stacy Wernick,
via YouTube

Northern Exposure

Just a quick fan mail here: Thanks for such good teamwork on your mag. For the last few years, it's the one I must buy every month! Today I'm sitting at Starbucks with the May print version open, and the online version open on my tablet below, listening to Will Ray's Icon V6 demo ["Bottom Feeder," May 2015]. What a fabulous way to learn and enjoy content! Keep them coming.

—Paul Jacob,
Mississauga, Toronto, Canada

Double Takes

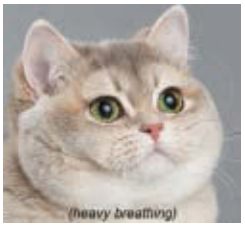
I've come to love Larry Carlton's jazzed-up instrumental "Layla" ["Staff Picks: Take Two," July 2015]. It's at least as good, and the two major musical themes more tightly integrated than the Derek and the Dominos original, and honestly, worlds ahead of Clapton's subsequent "unplugged" rendition. Buy it. Hear it. Love it.

—Bruce McIntosh,
via premierguitar.com

Keep those comments coming!

Please send your suggestions, gripes, comments, and good words directly to **info@premierguitar.com**.

Socialize with Us!



@ashanyao @slipknot @Fender @premierguitar

—@AliBlacksmith

Dammit. After reading the @premierguitar interview with @torreslovesyou, now I want a Jazzmaster too. This mag's kind of expensive at times.

—@newmusicmichael

I'm not even sure what #hipsters are but I think @premierguitar kinda turned into them.

—@daveyisgreat

People use music all the time for therapy, they just don't know it. I have Complex PTSD and music helps me to relax, erm, if I'm not listening to Iron Maiden that is... Relaxing music.

—David Yisrael Potter

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Above: Photo by Debi Del Grande



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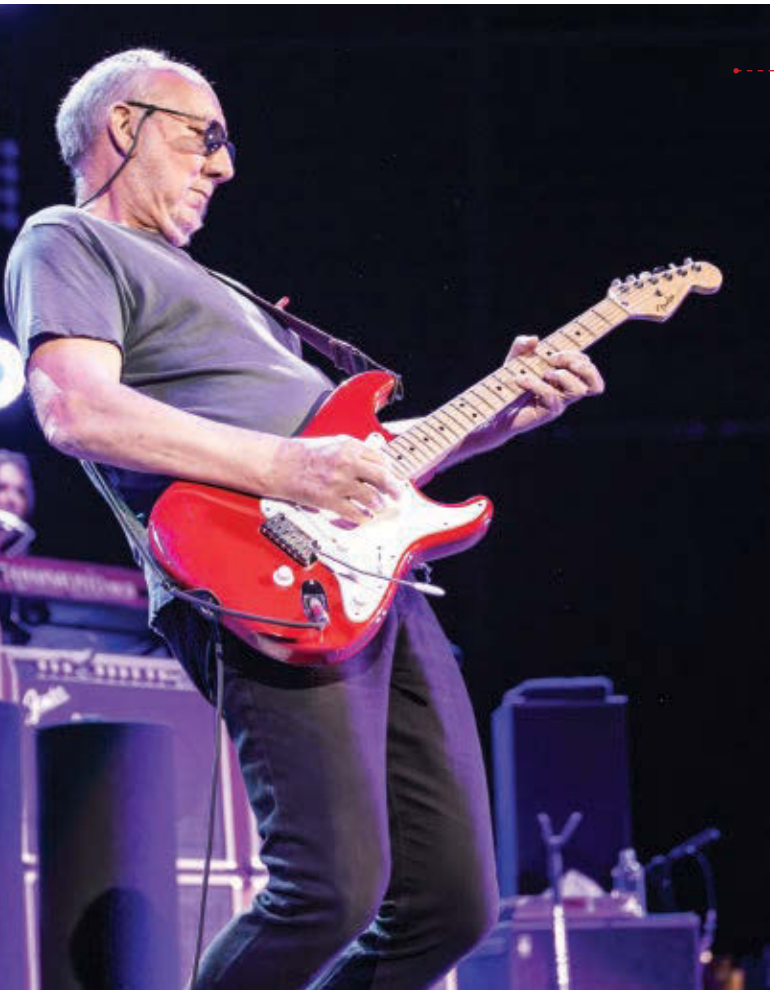
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Left to right: RCA 6BQ5 and Westinghouse 6V6 (U.S.A), Mullard EL34 (Great Britain), and National 6L6 (U.S.S.R). Photo by Andy Ellis





"Throwing all the spices into one dish can make a guitar look like an explosion in a parts factory."
—Esoterica Electrica, Jol Dantzig, p. 222

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Above left: Photo by Joe Russo **Bottom left:** Photo by Tim Mullally

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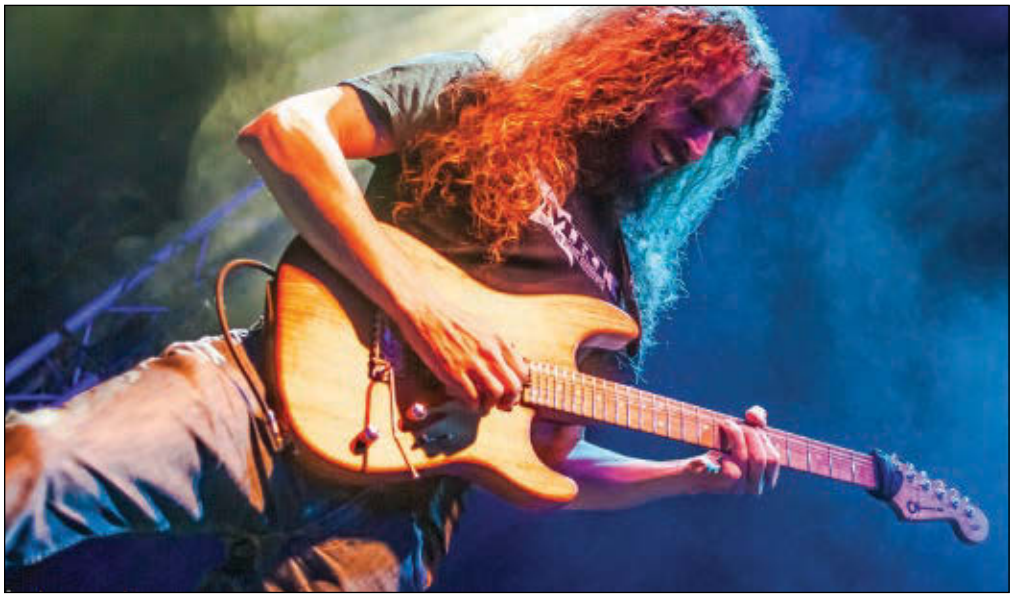
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FEATURED



Guthrie Govan's New Programming

It's impossible not to feel bedazzled by the superhuman virtuosity of the **Aristocrats** in action, as **Guthrie Govan** unleashes multi-octave, tapped arpeggios at warp speed atop ultra-precise, odd-meter grooves executed by drummer **Marco Minnemann** and bassist **Bryan Beller**. The trio decided to get even tighter for new album, ***Tres Caballeros***, practicing for days before hitting the record button. "We were relatively gig fit by the time we got into the studio and it really made a difference," Govan tells *PG*. We were shocked when he told us what he's working on next. "Right now I'm not playing a great deal of guitar," the shred machine says, "I'm doing a lot of programming." You heard it hear first, but you'll have to get the rest of the dirty deets online at **premierguitar.com/aug2015.**

While you're there, don't miss two acts that are catching attention with different approaches on roots-rock riffage: Songwriter **Pokey LaFarge**, and the Alabama-bred, Nashville-based **Banditos**.

LESSONS

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WORLD GONE SHRED
Bulgarian Odd-Meter Riffage
By Jared Meeker

THE GUITARIST'S TOOLKIT
Sharpening the Rhythmic Blade
By Miles Okazaki

DIGGING DEEPER
Crafting Layered Guitar Parts
By Shawn Persinger

ELECTRIC ETUDES
Alice in Chains' Jerry Cantrell
By Jamie Humphries

DEEP BLUES
Riding with B.B. King
By Levi Clay

VIDEO DEBUT



Axes & Artifacts

About the time you're reading this, we'll be wrapping our shoots in Nashville at **Summer NAMM**. Head over to **premierguitar.com/snamm2015** and watch the fun unravel.

Gear history buffs will love our new video series, **Axes & Artifacts**, where *PG* correspondent **John Bohlinger** discusses rare gear with **Gruhn Guitars Repair Shop Manager Greg Voros**. In Episode 1, they demo and discuss a 1968 Gibson Trini Lopez and a 1962 Ampeg Reverberocket. Watch it now: **premierguitar.com/axesandartifacts**

Above left: Photo by Kris Claerhout

GUITARDOM'S TOP TWEETS

To all of the people who complain about the gear industry: SHUT UP. Make cool shit, innovate, love music, be happy. Otherwise, get out.

—@aens_wife



I'm not an electronics expert, but I'd say something is clearly not working properly here.

—@stixzadinia

Three members of Mastodon appeared on tonight's #GameofThrones as Wildlings. Talk about typecasting.

—@gregkot

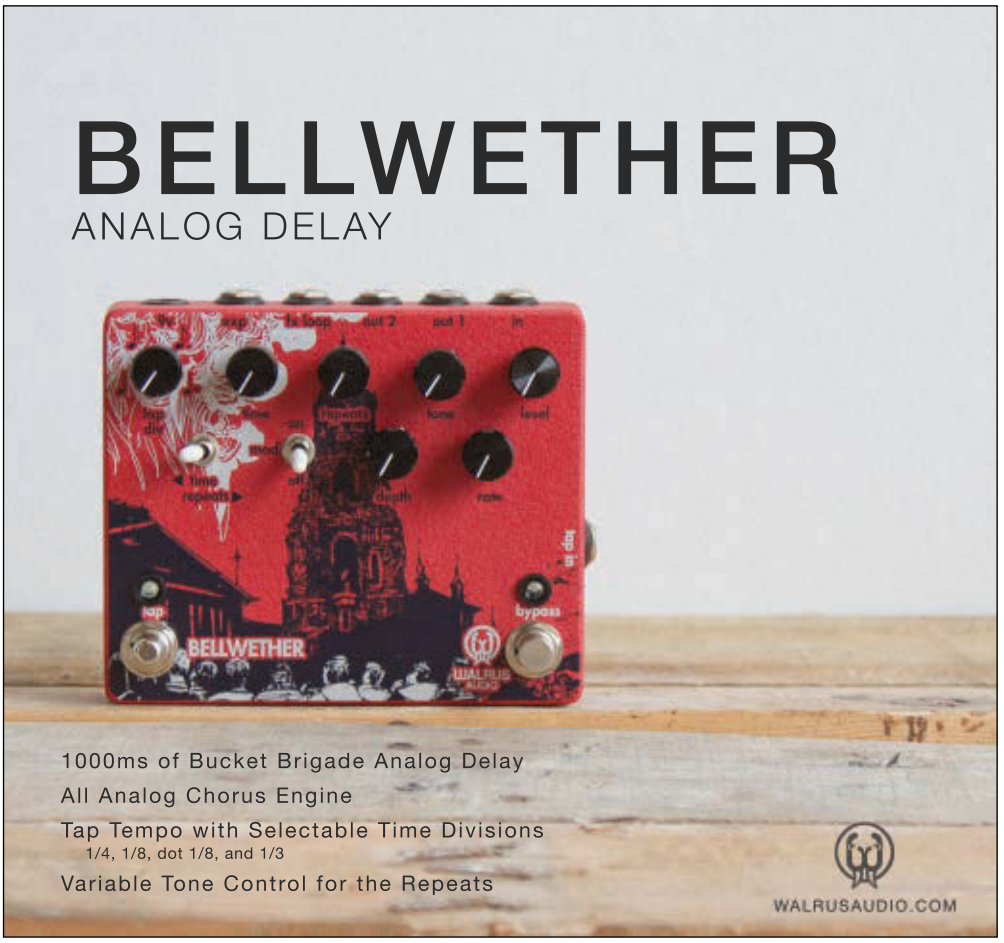
Wow Louis Johnson gone from this mortal coil. One of the greatest to ever pick up the electric bass. A hero of mine. The funkiest. R.I.P.

—@flea333



I'm recording things. #SunsetSound

—@WolfVanHalen







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7
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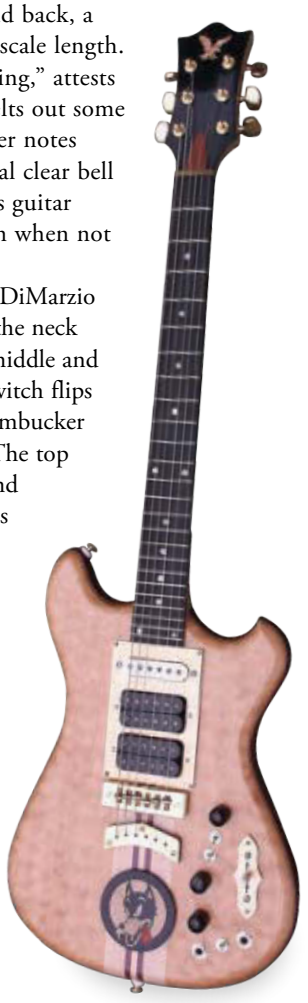
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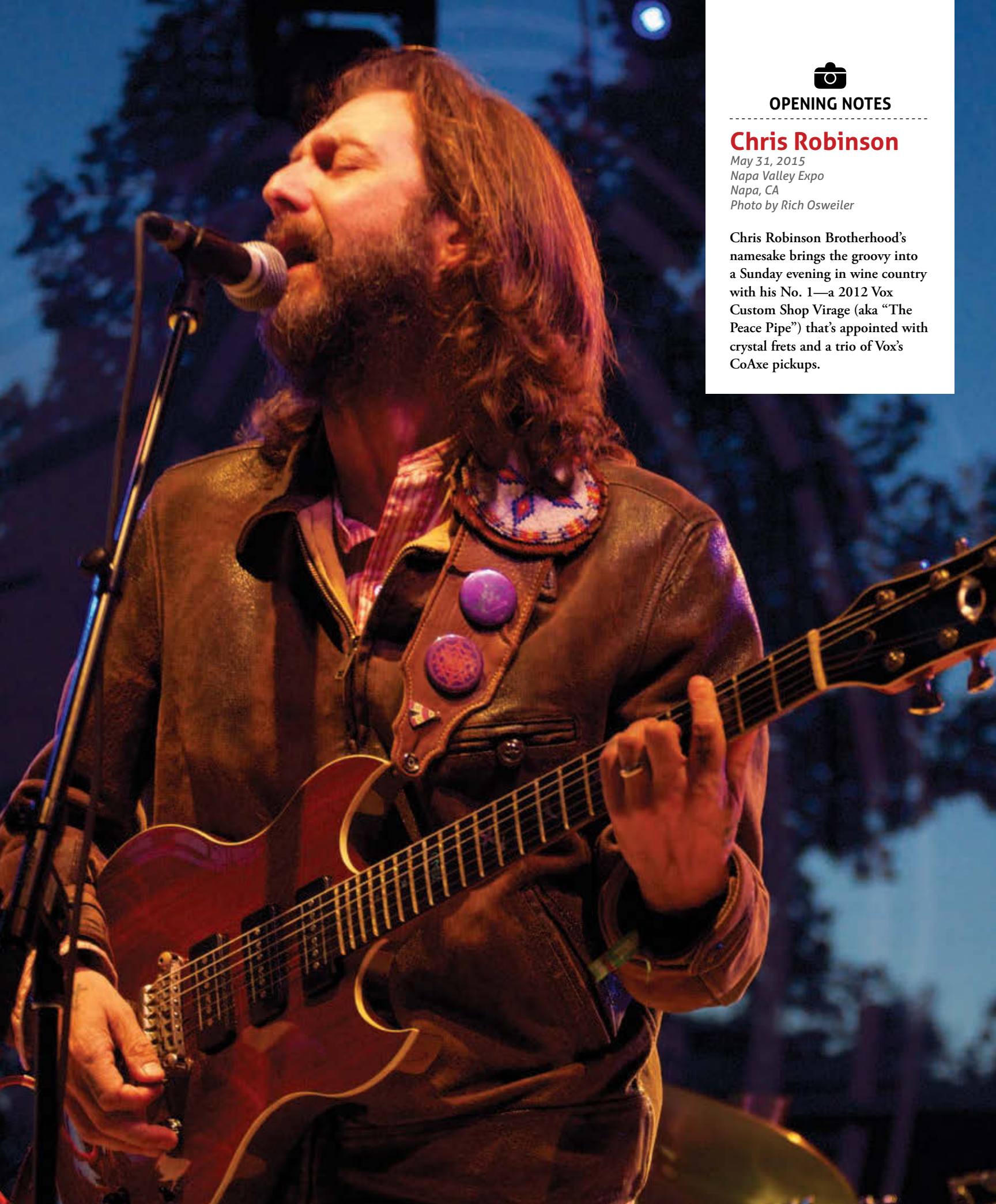
Name: James Gregory
Location: Gerrardstown, West Virginia
Guitar: Custom Build by Troy Post, Post Guitars

The inspiration for James Gregory's guitar came from the "Wolf" guitar built for Jerry Garcia by Doug Irwin. Garcia played his "Wolf" guitar from 1973-1978. "I always loved the range of tones available from this guitar and it always struck me as stunning," Gregory says. "I found Troy Post, the builder, by reputation. He's made some incredible instruments played by musicians I know that tour locally and nationally. I called him and basically told him what I was looking for. It was a delight working with him."

Gregory's "Wolf" has a 5-piece, through-body neck with an ebony fretboard. The guitar has an 11-layer body with a purpleheart core, a quilted-maple top and back, a brass nut, and a 25" scale length. "The sustain is amazing," attests Gregory. "It really belts out some spanky, honking lower notes and rings like a crystal clear bell on higher notes. This guitar sounds beautiful even when not plugged in."



The pickups are a DiMarzio SDS-1 single-coil in the neck and Super 2s in the middle and bridge positions. A switch flips the Super 2s from humbucker to single-coil mode. The top knob is for volume and the bottom two knobs control tone. This special 6-string also features an onboard buffer and effects loop, hence the two jacks. "When no one's home, I plug it into my vintage 100-watt Fender Twin and play through 2x12 JBL E120s," Gregory says. "My cats hate me."

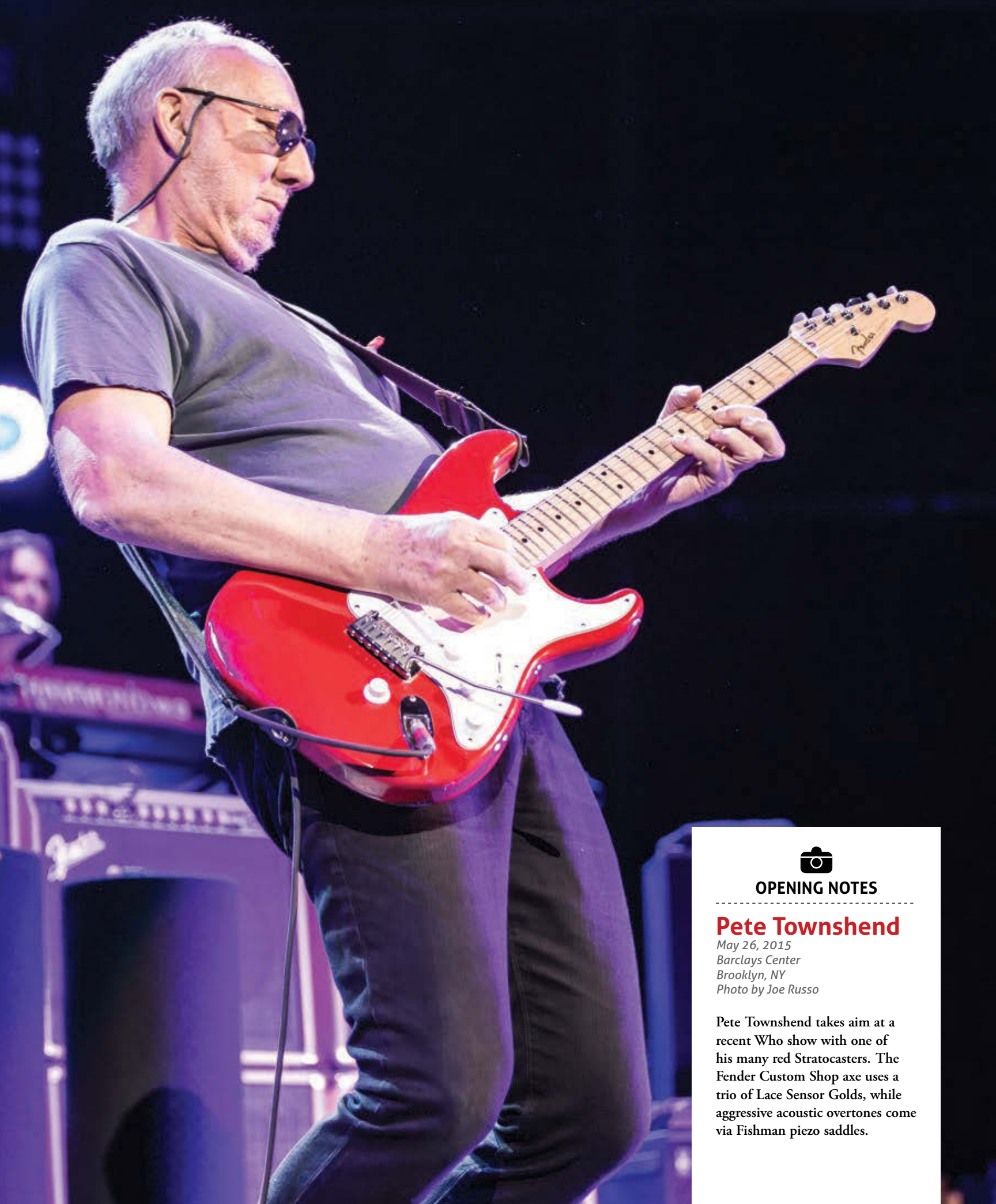


OPENING NOTES

Chris Robinson

May 31, 2015
Napa Valley Expo
Napa, CA
Photo by Rich Osweiler

Chris Robinson Brotherhood's namesake brings the groovy into a Sunday evening in wine country with his No. 1—a 2012 Vox Custom Shop Virage (aka "The Peace Pipe") that's appointed with crystal frets and a trio of Vox's CoAxe pickups.



OPENING NOTES

Pete Townshend

May 26, 2015
Barclays Center
Brooklyn, NY
Photo by Joe Russo

Pete Townshend takes aim at a recent Who show with one of his many red Stratocasters. The Fender Custom Shop axe uses a trio of Lace Sensor Golds, while aggressive acoustic overtones come via Fishman piezo saddles.



OPENING NOTES

Bobb Bruno

May 10, 2015
Central Park
Atlanta, GA
Photo by Debi Del Grande

Best Coast's lead guitarist shakes things up at Atlanta's Shaky Knees Festival with his stock Gibson Elliot Easton "Tikibird" Firebird. Bruno discovered the axe while watching early Cars videos on YouTube and was drawn to all the tonal options it provides via '57 Classic humbuckers, coil-split switching, and a Bigsby.



OPENING NOTES

Ronnie Wood

May 24, 2015
Petco Park
San Diego, CA
Photo by Lindsey Best

The Stones guitarist gets busy with his 2007 Versoul Raya Blue Lite. The unique axe is packed with a pair of Versoul alnico 5 humbuckers and boasts standout chrome-plated steel sides and LED-illuminating blue-glass lenses on both the front and back.


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Alex Skolnick, Eric Peterson & Steve DiGiorgio

TESTAMENT

FACTOID
Alex Skolnick uses his signature Budda head for metal and jazz gigs.

Premier Guitar met with Eric Peterson, Alex Skolnick, and Steve DiGiorgio before Testament's April 22, 2015, show at the Cannery Ballroom in Nashville to get the scoop on what gear the Bay Area thrashers rely on for maximum oomph and practicality.







GUITARS

Top Left: Alex Skolnick tours exclusively with his new ESP signature models, which feature splittable Seymour Duncan humbuckers, TonePros bridge and tailpiece, 22XJ frets, and a 12"-radius fretboard.

Top Right: Eric Peterson's No. 1 guitar is a signature Dean Old Skull V outfitted with a set of EMG 57/66 humbuckers. (Peterson is currently working with EMG on a set of signature PAF-style pickups.)

BASS

Bottom: Testament bassist Steve DiGiorgio's No. 1 axe is a fretless Thor Bass modified from five strings down to three and stocked with passive Nordstrand humbuckers.







AMPS

Top: Peterson keeps it consistent and affordable on tour by leaving his Marshalls at home and running his guitars into a Line 6 Relay G55 wireless feeding a Kemper Profiler PowerHead that's driving an EVH 5150III 4x12 loaded with Celestion Vintage 30s. All his effects—including wah—come from the Kemper, which Peterson controls with a Behringer FC1010 MIDI foot controller.

MIddle: Skolnick runs his 120-watt signature Budda AS Preceptor head into a matching Budda 4x12 cab. For gigs abroad that require smaller rigs, he uses a Kemper Profiler PowerHead.

PEDALS

Bottom: Skolnick's guitar signal first hits a Boss TU3 tuner, then runs into a Jam Pedals TubeDreamer 88, a Tone Concepts Distillery, a Boss NS-2 Noise Suppressor, a Dunlop EVH Phase 90, and then into either a Boss DD-20 or a Rocktron Reaction digital delay patched through the amp's effects loop. When using his Kemper, Skolnick changes presets with a Behringer FCB1010 MIDI foot controller.

Ben Gibbard and Nick Harmer

DEATH CAB FOR CUTIE

FACTOID

Death Cab for Cutie began as Ben Gibbard's solo project. Most of their early tracks were recorded in Gibbard's basement.

On April 29th, 2015, Ben Gibbard and Nick Harmer of Death Cab for Cutie met with PG in Nashville's historic Ryman to talk short-scale Fenders and Acme Silvertones.





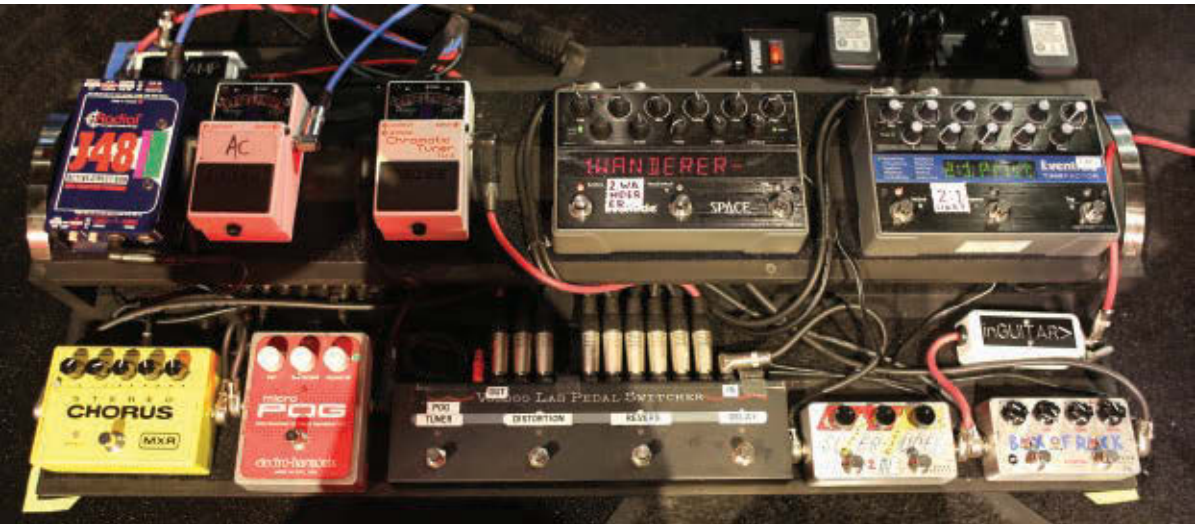
GUITARS

Top: Ben Gibbard tours with four 1970s Fender Mustangs with solid maple necks. (He likes their comfy 24" scale.) The Mustangs have had their pickup switches and tone controls removed, and a single volume knob controls both pickups. Tech Jesse Quitslund also replaced the tremolo springs with bolts, locking down the floating tailpiece.

BASSES

Bottom: Since 2007 Harmer has toured with three Lakland P-style basses, all with maple necks and fretboards. The Lakelands feature 5% overwound Lollar pickups and are strung daily with D'Addario XL 50-105 strings.







AMPS

Top: Gibbard has two Acme Silvertone amp heads onstage (one is a backup). Jesse Quitslund made these overbuilt versions of the classic Danelectro/ Sears Silvertone 1484 circuit in 2008.

PEDALS

Middle: Gibbard is an old-school stomper. His signal runs into a ZVEX Super Duper 2 in 1, then to a Voodoo Labs Pedal Switcher that loops to a Boss TU-2 tuner, EHX Micro POG, MXR Stereo Chorus, ZVEX Box of Rocks, Eventide TimeFactor delay, and an Eventide Space reverb. All reside on a Quitslund-made pedalboard with power supplies, a tuner, an acoustic DI, and a power strip. A Voodoo Labs Pedal Power 2+ supplies the juice.

Bottom: Harmer uses a simple pedalboard with a Boss TU-2, ProCo Rat Duecetone, Boss FRV-1 '63 Fender Reverb pedal, and a Maxon AD999 analog delay, all supplied by a Voodoo Labs Pedal Power 2.



1956 Fender Stratocaster (Serial #14220) and 1957 Fender Twin

BY DAVE ROGERS, LAUN BRAITHWAITE, AND TIM MULLALLY

The Fender Stratocaster underwent its first substantial alterations two years after its 1954 debut. In mid 1956, alder replaced the original ash body wood because it provided better consistency and was easier to finish. Meanwhile, the original neck's round, chubby profile evolved into a distinct V shape. The original round string guide for the 1st and 2nd strings was changed to a rectangular ("butterfly") clip. The knobs and pickup covers evolved from a brittle, Bakelite-type material to a more durable plastic.

The 1956 Strat seen here closely resembles the famous Strat whose photo appears on two classic 1970 albums: *Eric Clapton* (the guitarist's first solo album) and *Layla and Other Assorted Love Songs* (by Derek and the Dominos, featuring Clapton). Clapton bought that guitar, later nicknamed "Brownie," in May 1967, when he was still performing with Cream, though he didn't use it extensively until his 1970 work with Delaney & Bonnie and Derek and the Dominos. In addition to their similar sunburst patterns, both this Strat and Clapton's have necks initialed by the same Fender employee, XA (full name unknown). Brownie's neck reads XA-6-56, while this Strat is dated two months later: XA-8-56. The body dates correspond to the neck dates on both guitars.

The February 1957 list price for a Stratocaster with tremolo was $274.50. The current value is $25,000.

The amp behind the guitar is a 1957 Model 5E8 Twin (known to collectors as "the low- powered Twin"). On this model, two 5U4 rectifier tubes and two 6L6s deliver 50 watts of power to a pair of Jensen P12Q speakers. Introduced in 1953, the Twin has remained a favorite of both pros and amateurs throughout its evolution, which included the high-powered 1958 model and 1963's Twin Reverb.

The February 1957 list price for a Fender Twin amp was $339.50. The amp's current value is $10,000.

Sources for this article include *The Fender Stratocaster* by A.R. Duchossoir, *The Stratocaster Chronicles* by Tom Wheeler, *Fender Amps: The First Fifty Years* by John Teagle and John Sprung, and *A Selection of Eric Clapton's Guitars* by Christie's New York.

DAVE'S GUITAR SHOP

Dave Rogers' collection is tended by Laun Braithwaite and Tim Mullally and is on display at:
Dave's Guitar Shop
1227 Third Street South
La Crosse, WI 54601
davesguitar.com
Photos by Mullally and text by Braithwaite.



Opposite page: In 1956 Fender replaced the earlier Bakelite-style knobs and pickup covers with a more flexible and durable plastic.

Left: A rectangular string guide replaced the Strat's original round guide in 1956.

VOX V125 Bass

BY ZACHARY FJESTAD

Built in England and introduced in the early '80s, Vox's V125 Bass amp was in production for only a few years.



Q: **Hey Zach,**

I always enjoy your column, so I thought I'd pick your brain about a Vox V125 Bass tube amp I bought in the late '80s or early '90s. I can't find much info on it, and I wonder why you don't see them around. Vox's classic guitar amps are so popular, but this bass amp was not. Short of Sir Paul McCartney, I've never seen anybody use one. You'd think gear used by a Beatle would catch on more! I've owned all kinds of amps over the years, but I've never wanted to part with this one. Am I just weird?

Thanks,

Yvon in Edgewood, Kentucky

A: **Hi Yvon,**

A taste for unique vintage gear does not qualify as weird! I think Vox's bass amps aren't so highly regarded because Vox is one of a number of manufacturers who made guitar amps first, and then slightly tweaked their guitar offerings to make a bass amp. Marshall is another example.

Vox knocked it out of the park in the late '50s/early '60s with their AC30 and its variations, but the company didn't keep up with musicians' styles enough to remain a driving force in the industry—something Marshall did quite well. Marshall went on to build some of the greatest guitar amplifiers of all time, while Vox spent decades struggling to rediscover its identity. Partly this was due to Vox's messy ownership history—especially from 1967, when founder Tom Jennings and engineer Dick Denney exited the company, until the early '90s, when Korg purchased the brand. Sales, moves, and bankruptcies contributed to an unstable brand and many experimental designs.

It's no secret that Marshall and Vox were rivals for many years. It's interesting that Jim Marshall, who had a music shop in West London, was a Vox dealer early on. When Marshall started designing and building amplifiers that would compete with Vox, Tom Jennings was not impressed. But by the '70s the sides had switched, and many Vox amps were designed to compete with Marshall's successful stacks.

Rose Morris was the exclusive Marshall distributor between 1965 and 1980. In the late '70s Rose Morris, correctly assuming that Marshall wouldn't renew their soon-to-expire contract, purchased Vox to fill the impending void.

Introduced in the early '80s and produced in England, the V Series amps were some of Vox's first amplifiers under Rose Morris ownership. They were derived from the AC120, first offered in the mid-'70s. These amplifiers—specifically the V125 Lead and the V125 Bass—were clearly designed to go up against Marshall's stacks. (Combo versions called the V125 Combo and the lower-wattage V15 were also offered.)

These amps were advertised as "pure valve power," but they actually have two transistors in the preamp stage. Otherwise, the V125 Bass is an all-tube amp with four preamp tubes (1 x ECC81, 1 x ECC82, 2 x ECC83) and four EL34 power tubes. It produces 125 watts and features two inputs (brilliant and normal), along with sensitivity, volume, and master-volume controls. A 5-band EQ section ranging from 50 Hz to 1,600 Hz rounds out the controls. The separate VR115 cabinet houses a single 15" Celestion speaker. The only noticeable differences on the V125 Lead are a distortion control instead of sensitivity, an EQ section ranging from 100 Hz to 2,300 Hz, and two 12" speakers.

When this amp appeared in the early '80s, bass-specific amplifier companies such as Hartke, SWR, and Gallien-Krueger were emerging, and bassists took notice. Why buy a slightly tweaked guitar amp when new amps designed specifically for bass were now available? Also, since this amp series was only offered for about two years, Vox didn't make many of them.

Currently, a V125 Bass rig (including both the head and speaker cabinet) is valued between $800 and $1,000 in excellent condition. The general consensus amongst collectors and players is that these are good-sounding amps, and most people who own them have enjoyed them.

Vox limped along through the '80s and early '90s before Rose Morris sold the brand to Korg. (Until 2010, Korg also distributed Marshall amplifiers in the U.S., uniting the two rival brands.) Since then, Vox has enjoyed over two decades of stability under Korg while re-establishing itself as a major player in the guitar-amp industry.

Don't let anyone tell you otherwise: Unique vintage gear that works well and sounds decent is cool, and liking it doesn't make you weird! If you can find these pieces relatively inexpensively, they can be treasures.



ZACHARY R. FJESTAD *is author of* Blue Book of Acoustic Guitars, Blue Book of Electric Guitars, *and* Blue Book of Guitar Amplifiers. *For more information, visit bluebookinc.com or email Zach at guitars@bluebookinc.com.*


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BACK ON THE FARM: bonnaroo 2015

BY TESSA JEFFERS

It started in 2002 and quickly earned a reputation among jam-band enthusiasts, but now in the 14th year of the Bonnaroo Music and Arts Festival, even artists who perform there call it the "best music festival in America." The hundreds of acts encompass all genres, but so do the events, which for 2015 included a big-screen showing of the *Game of Thrones* finale, appearances from celebs like Jon Hamm, Zach Galifianakis, and other comedians, and lots of painted boobs and bare skin.

But it's about music, right? Some 80,000 enthusiasts descended on the storied farm in Manchester, Tennessee, becoming inhabitants of the Roo—aka "Bonnaruvians"—for a while. Among the selfie sticks, free hugs, and $1,500 Uber helicopter rides, there were many great musical moments during these four days of sonic freedom and escape. Here are some of the 6-string highlights.



D'ANGELO AND THE VANGUARD



Michael Eugene Archer, aka D'Angelo, was the man to see at Roo this year. He donned his custom Minarik Diablo guitar during a twilight set, and from the moment he and the Vanguard broke into the first song, "Ain't That Easy" (the opening track from 2014's *Black Messiah*)—that was it. He proved it: He's the man. Period. Plus, his band included Jesse Johnson of The Time on guitar and Pino Palladino on bass. What?!!

LAURA JANE GRACE



Armed with a beaming smile and a black-and-white Rickenbacker 360, Against Me! frontwoman Laura Jane Grace got the energy soaring during the band's third time on the farm. In punk-song fashion, the angsty rockers managed to squeeze 16 songs into an hour-long tent set, opening with crowd favorite "I Was a Teenage Anarchist" before weaving in about 75 percent of the songs off of Against Me!'s 2014 album, *Transgender Dysphoria Blues.*

Top and Bottom Photos by Debi Del Grande

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GARY CLARK JR.



"Bright Lights" was fitting for Gary Clark Jr.! Known for playing revivalist blues through Epiphone Casinos, lately Clark Jr. seems to be expanding his sonic horizons. We saw him backstage slinging an Epiphone acoustic model, and he opened his Bonnaroo set playing this white Fender Stratocaster.

HOZIER



Irish singer/songwriter Hozier played several guitars over the course of his hour set—including a Danelectro Resonator and a Harmony H78—but it was this Bohemian Boho Motor Oil electric guitar with double humbuckers that caught our attention. Though he plays sans slide, the skilled picker managed to coax mean blues licks out of that can during "To Be Alone."

Top Photo by Debi Del Grande Bottom Photo by Douglas Mason



Photo: Eric Fairchild © FMIC

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MUMFORD AND SONS



"We're so fucking glad to be here," Marcus Mumford bellowed after the band opened its headlining gig with "Lovers' Eyes." It was a special moment for the Mum Sons, who had to cancel their headlining performance at Bonnaroo in 2013 because bassist Ted Dwane was diagnosed with a blood clot in his brain. Mumford rocked his Martin OM-21 throughout the performance, then later on the clan got all-star assistance from Dawes' Taylor Goldsmith, Hozier, My Morning Jacket's Jim James, and banjoist/comedian Ed Helms on "With a Little Help from My Friends."

MOON TAXI: TREVOR TERNDRUP



Nashville indie-rock quintet Moon Taxi was over the, well, moon, as one of the highest-profile hometown bands at this year's festival. Guitarist Trevor Terndrup had plenty of gas in the tank while getting nasty with his P-90-equipped Gibson Les Paul Double Cutaway goldtop.

Top Photo by Douglas Mason Bottom Photo by Debi Del Grande

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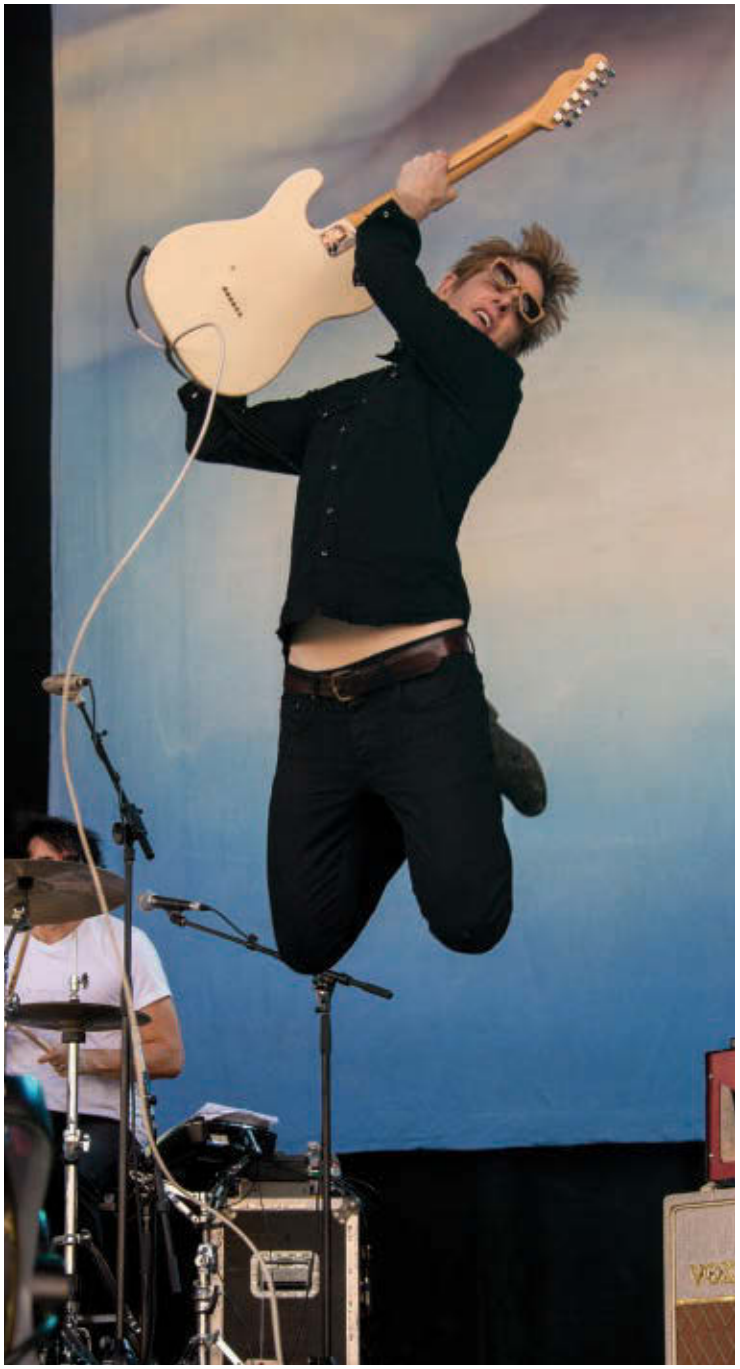


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SPOON: BRITT DANIEL

Britt Daniel of Spoon gets air with his Telecaster Thinline during his 6-string gymnastic-filled performance. You can't see the front of this late-'60s reissue, but it features striking black binding and pickguard.



BILLY JOEL

The hit-laden set Billy Joel delivered at Bonnaroo 2015 was perhaps too predictable for the final show of the four-day shebang, yet few expected him to strap on this cherry red Les Paul Junior and bang out some riffs as his longtime crew member "Chainsaw" belted out AC/DC's "Highway to Hell."

Photos by Douglas Mason

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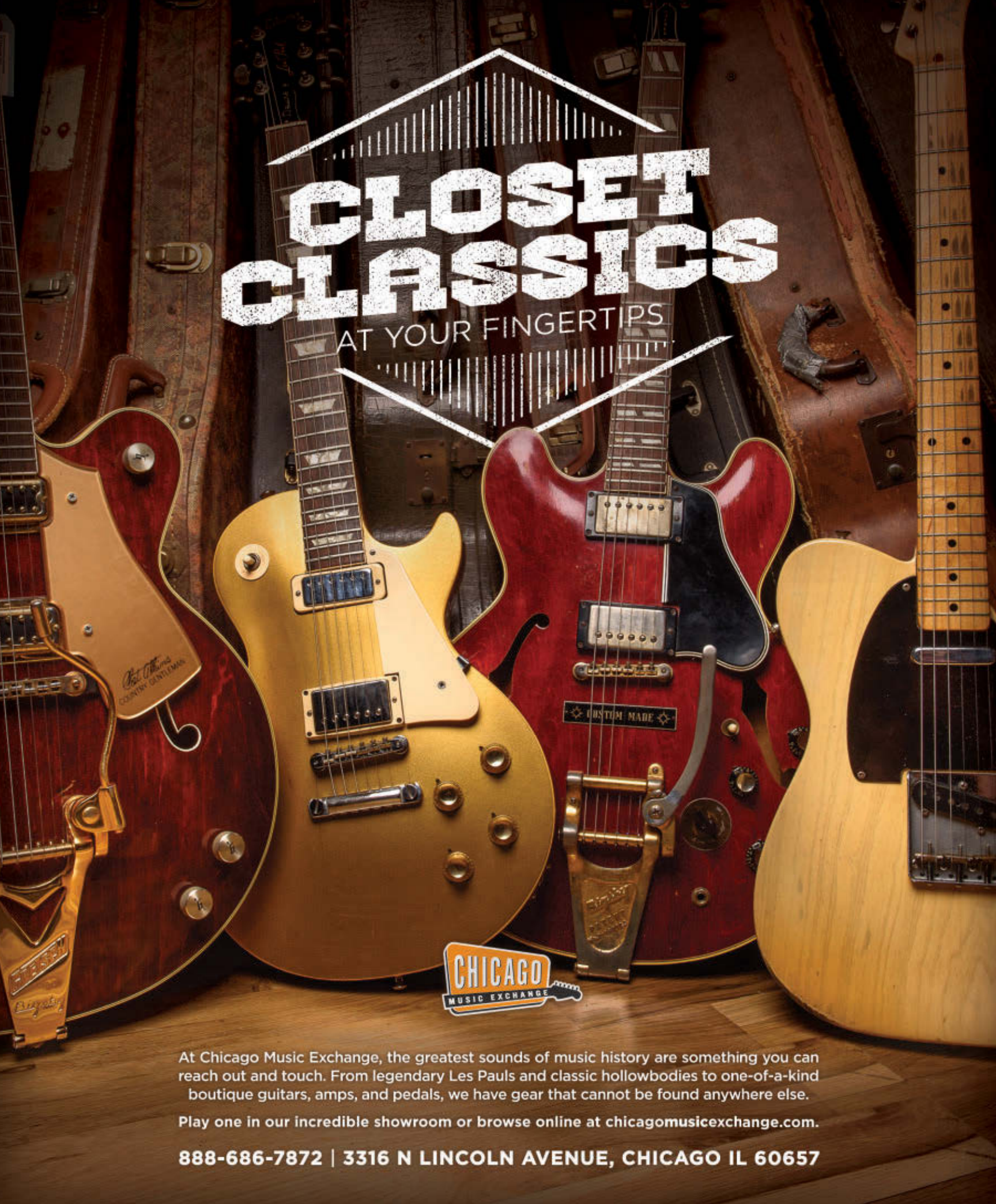
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POPS STAPLES

The gospel guitarist who took his tremolo-shaken country blues from Sunday mass to the masses.

BY MICHAEL ROSS



Photo by Kirk West/Archive Photos/Getty Images

Pops Staples at the Chicago Blues Fest on June 8, 1986.

The Staple Singers with Stax label mates Booker T. & the MG's in a late-1960s rehearsal.

Whenever you hear country blues-inflected guitar played through an amp with tremolo, you're hearing a sound descended from singer/composer/guitarist Pops Staples. Best known as the leader of a family gospel group, the Staple Singers, his guitar style influenced and inspired John Fogerty, Bonnie Raitt, Ry Cooder, and countless others. The dark mystery of his instrument's wavy sound has become part of the fabric of American music.

Roebuck Staples, known as "Pops," was born to Warren and Florence Staples on December 28, 1914, on a cotton plantation near Winona, Mississippi. Roebuck and his older brother Sears were named after the Chicago mail-order company that supplied millions of rural Americans with everything from washing machines to musical instruments.

The Staples soon moved to a plot on the Dockery plantation near Drew, Mississippi. As a teenager, Staples would make money participating in local boxing contests, but other interests had already begun. Though secular music was forbidden in his family, his brother David played blues guitar. By age 14 Staples was paying fifty cents a week towards a Stella he saw hanging in a store window. Like many blues artists of the time he picked cotton during the day, but when work was done he'd commune with the guitar, taking it to bed and playing under the covers as long as his father would allow.

In Drew, he heard blues legend Charley Patton, who played at a local hardware store in the evenings. The sight of Patton, Howlin' Wolf, and others making a living playing music inspired the young Staples to practice. By age 16 his diligence paid off with party gigs on the plantation circuit. The house manager collected contributions from the attendees, sometimes paying the guitarist $5 a night—a fortune by sharecropper standards.

Despite his love of the blues, Staples remained involved in the religious community, singing in church and later touring with a gospel quartet, the Golden Trumpets. At the time the guitar was associated with "the Devil's music" and forbidden in churches, though Staples never saw the contradiction—he felt the blues were just telling a different story.

Citified

At 18, Staples married 16-year-old Oceola Ware. A daughter, Cleotha, and a son, Pervis, soon followed. Seeing no future for his family in the South, he journeyed to Chicago. There, Staples put the guitar down for a dozen years while working in a slaughterhouse and a series of other jobs. Oceola worked as well, and gave birth to two more daughters: Yvonne and Mavis.

Chicago in the '40s was a hotbed of R&B, blues, and bebop. The Staples family lived in the neighborhood that spawned such talents as Lou Rawls, Sam Cooke, and Johnny Taylor. Gospel was also on the rise, with guitar-based male quartets and piano-accompanied female soloists working a circuit of churches around the nation.

For a while, Staples joined the Trumpet Jubilees as a vocalist, but in 1948 he decided to form a group closer to home. He pulled out an old guitar and taught Mavis, Cleotha, Pervis, and Yvonne harmony parts to "Will the Circle Be Unbroken." The family's debut at an aunt's church brought seven dollars



Photo courtesy Concord Music Group



THE RESURRECTION OF THE LEGENDARY BINSON ECHOREC MULTI-HEAD DRUM ECHO.

and promises of more gigs. The Staples' warm Southern sound quickly caught on, and soon they were branching out to other cities and states.

In 1950 Staples bought his first electric guitar, an amp, and the tremolo effect that would help define his sound. Pops played a variety of mostly Fender guitars throughout his career: Telecasters, Jazzmasters, Jaguars, and Stratocasters. In Greg Kot's book, *I'll Take You There: Mavis Staples, the Staple Singers and the March Up Freedom's Highway*, Sam Cooke's guitarist Leroy Crume recalled: "When Pops came on the scene, he brought this little gadget you put on an amplifier—at the time they weren't making amps with tremolos … People used to call it 'Pop Staples and his nervous guitar.'" The effect was most likely a DeArmond 601 Tremolo unit, which became available in 1948.

Though Pops Staples never left the church, he'd spent his fair share of time in juke joints playing the blues. With his family band committed to gospel, he now joined a Baptist church and was "born again," giving up secular music for the moment.

In 1953, Pops had the newly named Staple Singers record a single to sell at shows. A Chicago label, United Records, soon signed them, but their first label record, "Won't You Sit Down (Sit Down Servant)," failed to hit. An early version of "This May Be the Last Time" (later covered by The Rolling Stones as "The Last Time") was cut but not released until years later, and on another label. United wanted the band to move in a more rock 'n' roll direction, and for Mavis to sing the blues. Pops refused to agree.

It was back to the factory for a while, but the Staple Singers' singular sound—14-year-old Mavis' low voice, Pops' falsetto, and country soul in an urban environment—couldn't be denied. Another part of their unique appeal was Staples' guitar. Though artists like Sister Rosetta Tharpe and Pops' favorite, Blind Willie Johnson, had incorporated guitar into gospel, the Staple Singers were one of the first Chicago gospel groups to employ this previously shunned

HALLMARKS OF STAPLES' STYLE



Pops Staples' deceptively simple guitar style seamlessly combined strumming with bass lines and picked melody notes, all rendered with a vibe-heavy groove.

When bluesman Rick Holmstrom took the job as Mavis Staples' guitarist, he brought the spirit of Pops' without feeling the need to be a carbon copy. Mavis was onboard with that, deriving new inspiration from his personal approach. Nevertheless, Holmstrom has studied the gospel patriarch's style in great detail.

"Watch him on videos, where he's playing E7 in root or 'cowboy' position," says Holmstrom. "He may be tuned down to D and capoed up to E♭, depending on the time period, so I took one of my Teles and tuned it down a whole-step—it gets the spookiness down there. Pops would take that first position E chord and pick out little melodies with his pinky on the high E and B strings He might also be doing a hammer-on on the D string from D to E, or from A to B on the A string. Sometimes he would slide up to the root on the A string. He might have had an alternating thumb bass going on the low strings, but it was not strict like with country guitar.

"You can hear Charlie Patton, Son House, and Big Bill Broonzy in his playing. People have laughed at me when I say he reminds me a little bit of Scotty Moore, but he was not all blues. On 'Suzie Q,' James Burton plays that E7 chord with a little lick, and it sounds like something Pops would've done. Pops wasn't any kind of great technician, but he had this great vibe."

For Marty Stuart, seeing Pops Staples play in *The Last Waltz* was revelatory. "After that, I became enamored of the Vee-Jay recordings," he says. "I have always been a fan of a guitarist who can take two notes and wreck you."

Stuart met Staples when working with the Staple Singers on the *Rhythm, Country and Blues* record, and was quickly adopted by the family. When Pops died, Mavis and Yvonne gave the country star the rosewood Fender Telecaster Pops played in *The Last Waltz*. Stuart has compared it to being handed Excalibur.

"It's an instrument of light and truth," says Stuart. "When I put that guitar on, there is a responsibility that falls around my neck. I left it tuned down toE♭, the way Pops played it."

The guitar started off with standard Telecaster pickups but, according to Stuart's co-guitarist, Kenny Vaughan, was later modified with a Fender Wide Range Humbucker and 6-way brass saddles.

"It's real heavy—one of the solid ones," says Stuart. "I've tried to play country and rock on that guitar, and it won't come out. But as soon as I play gospel, it comes to life."

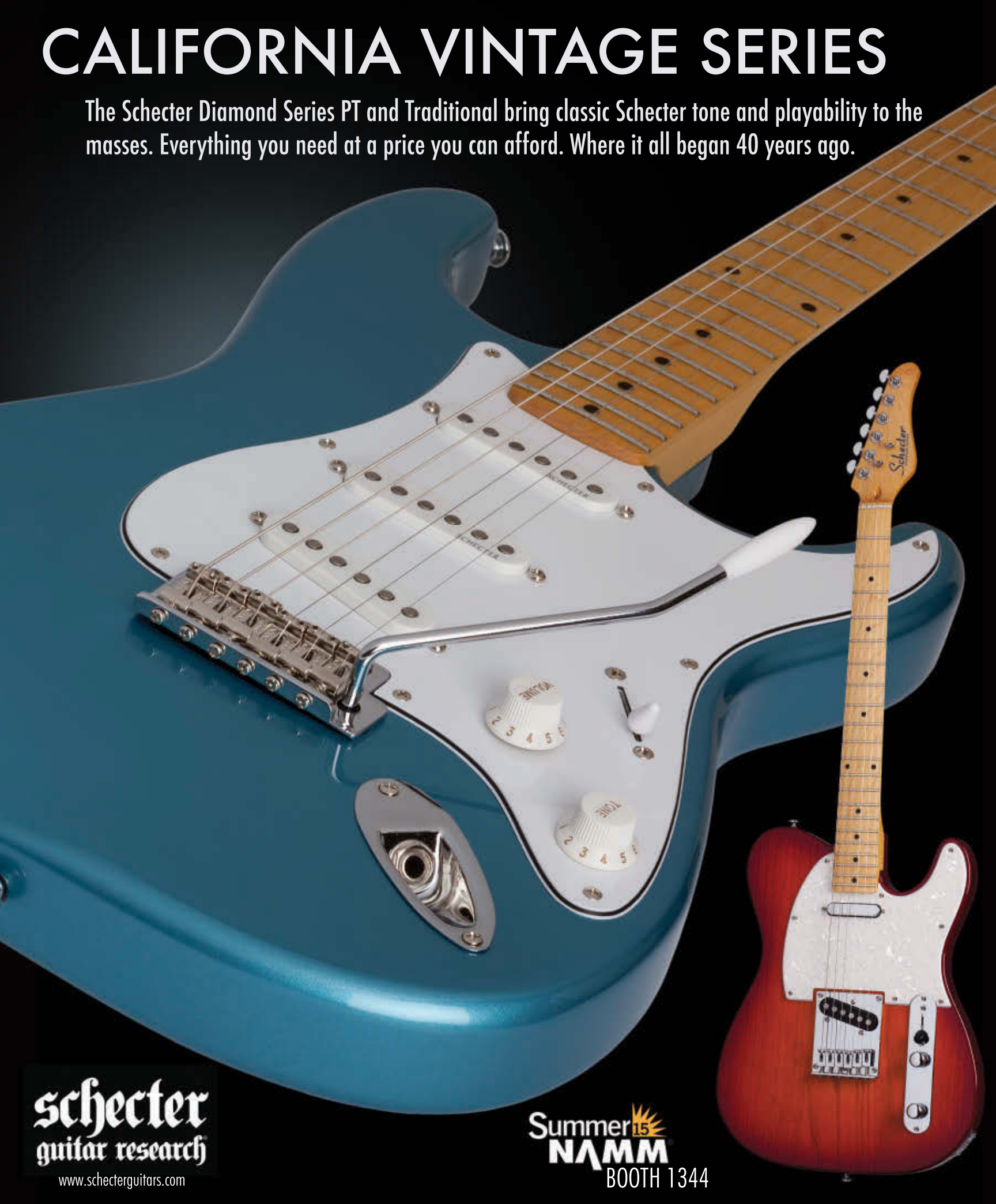
Stuart recalls one time when Pops visited Nashville. "Pops called and said, 'Marty, I need two things: a Fender '65 with a shake on it and a stretch-out car.' I said, 'No problem,' and then I called Mavis and asked, 'What is a Fender '65 with shake on it and a stretch-out car?' She said, 'Oh Marty, that's a Fender amp with tremolo and a limousine.' [*Laughs.*]"

Stuart beautifully summarizes the elusive magic of Pops' playing: "It's like trying to tell somebody about the Grand Canyon if they've never been there, or explain a dream you had last night. Sometimes when you can't analyze something, the best thing to do is to shut up and let it entertain and inspire you."

Photo courtesy of Concord Music Group

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Right: Cleotha, Yvonne, and Mavis Staples (left to right) are the female vocalists of the Staple Singers. The first song their father, Pops Staples (center), taught them to sing harmony on was "Will the Circle Be Unbroken."

Opposite page: We tend to associate Pops with Fender guitars, but he started out on a Stella, and holds a Chicago-built Kay in this early shot.

instrument. They were allowed to enter local churches that had previously permitted only keyboard accompaniment.

Vee-Jay Days

In 1955, the Staple Singers' worth was recognized by Vee-Jay records (who later recognized the Beatles' talent, distributing their records in America when Capitol initially refused). After a couple of false starts, they released the haunting "Uncloudy Day." It became the Staple Singers' first hit (at least by gospel standards) and allowed them to begin touring nationally.

Part of the Staples' appeal lay in a down-home sound and attitude that reminded Northern urban churchgoers of their rural Southern roots. The Staples' stripped-down performances—just Pops' guitar and their voices—stood in stark contrast to the more flamboyant gospel acts of the day.

Pops' playing is the foundation of the tracks the Staple Singers cut for Vee-Jay between 1955 and 1961. As Greg Kot describes it in his Staples book: "His style created an atmosphere that was immediately distinctive, a hypnotic swirl of reverb, repetition, and riff. Chords were implied as much as articulated, notes were blurred, tones and overtones were carefully layered like the bricks Pops used to cement into place at his construction jobs."

While the Staple Singers' repertoire wasn't strictly gospel, identifying themselves with that genre gave them an advantage over R&B groups: They could play hundreds of small churches across the country, sometimes doing two or three services a day at a single church. Like many R&B artists, though, Staples carried a gun in his briefcase to ensure payment by crooked promoters and to protect the money afterwards.

In the 1960s, the Staple Singers moved to Orrin Keepnews' jazz and folk label, Riverside Records. Keepnews added more prominent bass and drums to their recordings, helping them extend



Photo courtesy of Concord Music Group



their audience beyond the church while remaining true to their homespun roots.

The group managed to fit into the "folk" music revolution of the '60s, often crossing paths with Bob Dylan on TV shows and at festivals. The fledgling legend was a huge fan—to the point of asking Mavis to marry him. The group recorded "Blowing in the Wind" for Riverside before Dylan's own version hit the streets.

Pops often found folk music's message to be in tune with his family's ideology. Dylan's music, and a meeting with Martin Luther King, Jr., inspired him to record songs reflecting the civil rights and anti-war movements for their record *This Land*.



Photo courtesy of Madeline Burke

Freedom Highway

In 1965, the Staples signed with Epic and recorded with producer Billy Sherrill. Sherrill was known for creating the "countrypolitan" sound of artists like George Jones and Tammy Wynette, but had started in music playing the blues.



That year also brought the famous Selma to Montgomery civil rights march. Pops Staples, upset by the images of clubs, dogs, and tear gas, was moved to write his iconic song "Freedom Highway." The group performed it for the first time at Chicago's New Nazareth Church, where Sherrill recorded the entire performance for the live *Freedom Highway* record. Al Duncan on drums and Phil Upchurch on bass add admirable support, but Pops' guitar anchors the recording, from the country blues licks of "When I'm Gone," to the rockabilly rhythm/lead combo of "He's All Right." By the concert's end, the Staple Singers had defined the meeting place of the African-American church and the American Civil Rights Movement.

The Staples were devastated by the death of their friend and hero Martin Luther King in April 1968, but by July they'd recovered enough to sign with Stax Records, where Al Bell and Steve Cropper helped them continue on their path toward gospel-infused pop music.

By concert's end, the Staple Singers had defined the meeting place of the African-American church and the American Civil Rights Movement.

Bell also wanted to produce solo records for Pops and Mavis. He and drummer Al Jackson, Jr., had the idea of making a record featuring three Stax guitarists: Pops, Cropper, and Albert King. Though Pops' tremolo guitar is overdubbed on a number of *Jammed Together*'s tunes, its full low-tuned mystery is reserved for the one Pops feature, "Tupelo."

Guitarless in Muscle Shoals

It wasn't until Bell produced the Staple Singers in Muscle Shoals that the group had their first crossover hit, "Heavy Makes You Happy (Sha-Na-Boom Boom)." But it was their next one, "Respect Yourself," that solidified the Staple Singers as crossover stars, hitting the pop charts at number 12.

For the follow-up, "I'll Take You There," Bell played a Jamaican record, "The Liquidator," by the Harry J Allstars, for the Muscle Shoals crew. They lifted the intro practically intact and put their own spin on Aston and Carlton Barrett's reggae rhythm. Though Mavis breathes, "Play, Daddy" before the guitar solo, Muscle Shoals



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The Staple Singers pose with Don Cornelius (second from right) on the set of *Soul Train*. This publicity photo was taken during production of the June 8, 1974 episode.

guitarist Eddie Hinton performs it.

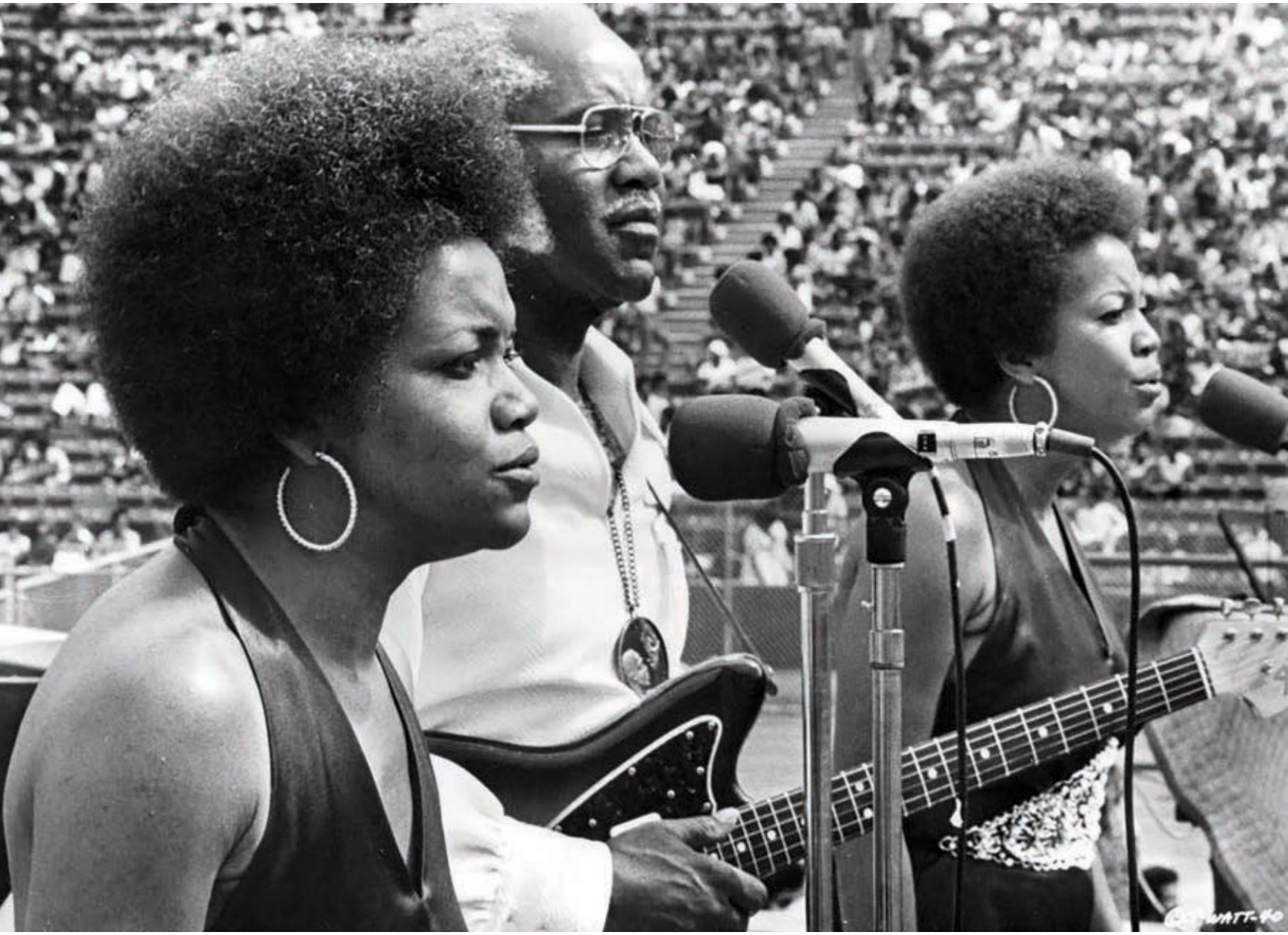
In Muscle Shoals Pops was not permitted to play guitar. Though the "Swampers" had utmost respect for his sound, his style was too idiosyncratic to fit into their well-oiled music machine, though the spirit of Pops' sound remains in Barry Beckett's spooky electric piano and the soulful guitars of Jimmie Johnson and Eddie Hinton. Pops wasn't happy about not playing on the sessions, but his feathers were smoothed when "I'll Take You There" became a number one pop and R&B single.

These secular successes brought some expected backlash from the gospel community, who took the Staples' political and pop songs as a sign they were turning their backs on the church. Pops felt the group was still doing the Lord's work by bringing messages of hope, pride, and unity to the black community. The group played a prominent role in Stax's celebration of black pride, the 1972 Wattstax concert, and was featured on the best-selling recorded documentary that followed.

Staples' guitar was absent on the next round of Muscle Shoals sessions as well. Despite being a retread of "I'll Take You There," "If You're Ready (Come Go with Me)" gave them another top 10 hit in 1973. "Touch a Hand (Make a Friend)" followed it up the charts later that year. The album, *Be What You Are*, also contained a track called "Heaven," featuring acoustic and electric guitar (and a solo) from another Staples fan: Jimmy Page.




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Pops Staples plays his Jazzmaster onstage with the Staple Singers circa July 1971.

Photo courtesy of Concord Music Group

The Weight Part II

The Staples left a failing Stax Records in 1975, but were quickly signed by Warner Brothers, who paired the group with Curtis Mayfield as producer. Mayfield was working on a soundtrack for *Let's Do It Again*, a movie featuring Bill Cosby and Sidney Poitier, and wanted the Staples to sing the title song. Initially put off by its sexual innuendo, Pops was brought around by his respect for Mayfield and his daughters' enthusiasm, leading to yet another huge hit.

In 1976 Martin Scorsese convened a special shooting session of the Staple Singers and the Band singing "The Weight." The Staples had covered the song back in 1968, weeks after the Band's first album, *Music from Big Pink*, was released. The group had been unable to play the concert filmed for the *Last Waltz*, but the Band considered the Staples' vocal sound a huge influence on their own vocals and harmonies, and wanted them in the movie.

The late '70s saw many bands struggling with the rise of disco, and the Staple Singers—now simply known as the Staples—were likewise caught in the conundrum. Chasing trends with tunes like "Let's Go to the Disco" was no answer. They returned to Muscle Shoals in 1978 in hopes of recapturing some of their original magic, but cutting a bunch of dance tracks, even with the Swampers, was no help.

Working in Allen Toussaint's studio with Meters bassist George Porter and arranger Wardell Quezergue also failed to reignite the Staples' success. In 1984, on yet another label, the Staples had a new flirtation with

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the R&B charts thanks to a recording of the Talking Heads tune "Slippery People." This led to Pops acting in Talking Heads frontman David Byrne's movie *True Stories*. Other acting jobs followed: Barry Levinson's film *Wag the Dog* and the Chicago production of Bob Telson's gospel-based musical, *The Gospel at Colonus*. Finally, Mavis left the group for a solo career, and Pops began his own solo flight.

Solo Staples

Virgin Records subsidiary Point Blank was signing a spate of blues artists in the late '80s, including Albert Collins and John Lee Hooker. At the behest of Hooker's booking agent, they signed Pops.

Peace to the Neighborhood let Staples bring his guitar to the fore once more on tunes like "I Shall Not be Moved," "Miss Cocaine," "Down in Mississippi," and "World in Motion." With guest artists Jackson Browne, Bonnie Raitt, and Ry Cooder helping out, the record earned a Grammy nomination in 1992. Pops' tremoloed guitar appears on about half the Point Blank follow-up, *Father Father*, which, despite a lack of blues tunes, won the 1994 Best Contemporary Blues Album Grammy.

Pops' career slowed, but the awards continued. In 1998 Staples was awarded a National Heritage Fellowship from the National Endowment for the Arts, and in 1999 the Staple Singers were inducted into the Rock and Roll Hall of Fame. The following year, on December 19, 2000, Pops Staples died after suffering a concussion in a fall near his home in Dalton, Illinois, just nine days before his 86th birthday.

Despite failing health, in 1998 Pops had begun sessions for another solo record. Shortly before he died, the ailing musician asked Mavis to play him the unfinished tracks. When they were done, he pleaded to his daughter, "Don't lose this." That became the album's title when it was finally released in 2015. Wilco's Jeff Tweedy, who has produced acclaimed records for Mavis, reworked the music, stripping away most of the original session tracks, leaving Pops' signature guitar, vocals from Pops, Cleotha, and Mavis, and a few tasteful overdubs.

Don't Lose This serves as a fitting finale for Roebuck "Pops" Staples, the man who brought the sound of electrified country blues guitar to the church, the city, and the world.



YOUTUBE IT

In this rare clip from 1968, Pops accompanies his daughters on the gospel classic "Wade in the Water" with only a Fender Jaguar. The song is associated with the Underground Railroad.
YouTube search term: Staples Singers 1968 Fender Jaguar







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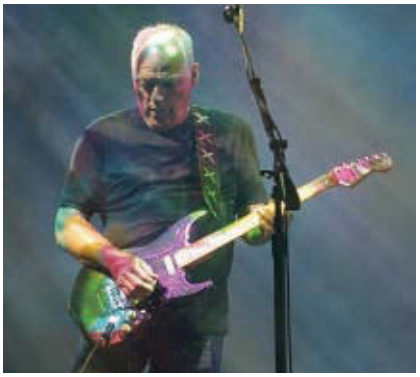
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Keep It Musical

BY PETER THORN



The great David Gilmour truly understands the concept of serving a song.

As I write, I'm waiting to board a flight at Narita airport to head back to the U.S. from Japan. Last night I performed a club set in a somewhat stripped-down acoustic setting for a television show with my current boss, Tsuyoshi Nagabuchi. When Tsuyoshi stopped by our hotel this morning to see us off, he paid me a high compliment that I really appreciated: He said I was very "giving" in my playing, always listening closely to him and being sensitive to where he was going musically.

The older I get, the more musical I try to be, and I find myself only interested in serving the song. Substance over flash is the name of my game! This month, I'll explore some ideas about keeping it musical.

Practice musicality. As a teenager learning guitar in the shred-happy '80s, I'd practice scales and repetitive patterns for hours at a time. I often played with a metronome, and my speed and agility increased dramatically. I don't regret for a second the time spent working on chops, but I now recognize that most of what I was practicing wasn't really musical. (No listener wants to hear guitarists running exercises!) I would have been better off playing things that expanded my chops, while standing on their own as listenable ideas. So my advice for practicing is to seek out phrases and patterns that are melodically and rhythmically interesting.

Serve the song. When it comes to playing music, serving the song matters more than anything else. This applies whether you're writing and recording your own music, performing someone else's song live, or playing a session and coming up with a part. Like a good film, music should take you on a ride.

All great movies have great scripts, right? There's a captivating story that ebbs and flows at a pace that holds the viewer's interest. Likewise, great songs are well structured. They feature dynamics and an ebb and flow that pull a listener in. Notes and phrases (and how they're delivered) are like film dialog, and we all know how tedious a movie with bad dialog can be.

A great exercise for learning how to serve the song is listening to and dissecting some of your favorite music. What makes it special to you? Why does it hold your interest and elicit an emotional reaction? Take note of how the individual parts work together to form a cohesive whole. Study how individual parts drop in and out and how they serve the big picture.

Case studies. Let's look at two very different songs that, in my opinion, are extremely well structured and written. AC/DC's "Highway To Hell" starts with an infectious and hooky four-measure intro riff that also serves as the guitar part for the main verse. Phil Rudd's pounding, simple-yet-effective drumbeat enters at measure five, and the lead vocal enters at measure nine. There is no bass guitar or other auxiliary parts at this point. The bass finally enters in the buildup to the first chorus, opening up the track and dynamically propelling the song. A simple, Chuck Berry-style guitar solo follows the second chorus, and lead-guitar fills play perfectly off the vocals in the outro chorus. It's a textbook example of how a minimalist, less-is-more approach can yield powerful results.

The Cardigans' dreamy pop hit "Lovefool" is masterfully produced. It features a really effective arrangement, especially the guitar parts. There are some wildly different tones, but all are totally appropriate for the parts. Bright, funky rhythms … dark, jazzy chord washes … aggressive, stabbing rhythm parts … fuzzed-out single-note lines … they all work in harmony to create a hooky masterpiece. No parts clash, and they all serve the song beautifully. This aesthetic can be applied to any kind of music. Use your imagination, and don't be afraid to experiment.

Thoughts on soloing. When it's time for you to step up and take a solo, don't just grandstand. It's your allotted space to say something, so choose your notes carefully. Solos shouldn't be pointless and self-indulgent. They should be essential to the big picture.

David Gilmour's two solo breaks on "Comfortably Numb" are terrific examples. The first is a major-key diatonic masterpiece that seamlessly takes over where the lead vocal leaves off. Gilmour phrases the solo like a vocalist would sing it—that's what makes it so memorable. It transcends cliché rock guitarisms and elevates the song. The second (outro) solo is a bluesy minor-key affair that positively soars with emotion. It's not just the notes—the space between the notes gives listeners enough breathing room to absorb what's being said. What you don't play is just as important as what you do.

A final thought: As an exercise, try looping a chord progression and then singing or humming simple yet catchy melodies on top of it. Next, find these phrases on your guitar. With practice, you'll get to the point where you'll be simultaneously playing and singing. This is where the real magic occurs. Your natural melodic instincts will come out through your guitar, and your soloing will sound less lick-like and be more memorable and mature. Until next time, always strive to keep it musical!



PETER THORN
is an L.A.-based guitarist who has toured with Chris Cornell, Melissa Etheridge, Tsuyoshi Nagabuchi, and many others. He released a solo album, Guitar Nerd, *in 2011. Read more at peterthorn.com.*



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Photo by Danny Clinch



DOWN FROM THE MOUNTAIN

Warren Haynes returns to his folk roots on the largely acoustic *Ashes and Dust.*

BY ADAM PERLMUTTER

One of the great Gibson players, Warren Haynes uses a fleet of Les Pauls, Firebirds, SGs, and ES-335s—even the occasional ES-175—to create the massive, singing blues-rock lines that are his bread and butter. But on Haynes's recent album, *Ashes and Dust*, made in collaboration with the New Jersey-based roots band Railroad Earth, his trusty Les Paul and 335 share equal billing with a D'Angelico New Yorker, his signature-model Washburn acoustic, and a handful of other steel-strings.

Now 55, Haynes has played in various incarnations of *two* legendary jam bands: the Grateful Dead and the Allman Brothers. He's also a founding member of Gov't Mule, still going strong 20 years after launching as an Allman Brothers side project. In addition to recording and touring with those outfits, Haynes is a songwriter and producer with several critically acclaimed solo albums to his credit.

While he's known for playing thunderous riffs and burning slide, Haynes is also a folkie at heart. Though his solo acoustic sets have always hinted at this, it's never been more apparent than on *Ashes and Dust*, the follow-up to 2011's soul-and-blues-oriented *Man in Motion*.

Supported on *Ashes and Dust* by fiddle, banjo, mandolin, and upright bass, Haynes plays Americana-tinged songs he's been incubating for decades, along with newer numbers and covers. "These songs have all been important to me for so many years," he says. "They're like snapshots of where I was at certain time points in my life, captured in music. The album is really a collection of life memories."

We asked Haynes to explain how he brought these memories to life with the help of Railroad Earth, and what challenges he faced stepping outside his comfort zone to work with this predominantly acoustic ensemble.



"One of my favorite guitars ever," says Haynes of his 1961 ES-335.

Does *Ashes and Dust* represent a homecoming for you?
I grew up in the mountains of North Carolina. Celtic and Appalachian tunes—what we call mountain music—were very prevalent, as well as folk and bluegrass. I've been surrounded by that music since I was a small child. My dad was a very good singer, and he loved musicians like Bill Monroe and Ralph Stanley. I rebelled against that influence until I was about 14 years old, when I realized it was really amazing music.

I began sneaking into folk clubs to soak in as much information as possible. At the same time I started learning blues, rock 'n' roll, and a little jazz. But what was most important to me was being mentored by singer-songwriters, and I didn't even realize that until recently when I made the new record.

To answer your question, I do think it was a homecoming. Not only is the instrumentation folky, I was able to pay tribute to the singer-songwriters I learned from early on. The song "Coal Tattoo," for instance, is by Billy Edd Wheeler, a local legend who wrote songs for Johnny Cash—"Jackson" was his—and for Jefferson Airplane, Judy Collins, Richie Havens, and many others. I tried to capture as much of the original spirit as I could, mostly from recollections of when I first learned the music. It was nice to go back there with the guys from Railroad Earth, who are so good at what they do. It felt so natural—nothing was forced.

What was it like to revisit the songs you wrote 20 or 30 years ago?
I'd been wanting to make this kind of record for a long, long time—I even started planning six or seven years ago. Some of the songs are brand-new, but many are old. These songs are really close to my heart. I've always kept them in the forefront of my mind and always wanted to record them for the right reason, at the right time. They wouldn't have fit on my last solo album very well. I never thought of them as Allman Brothers or Gov't Mule songs—obviously, they could've been interpreted in a new setting in either group, but I wanted to present them as a collection in a certain light, similar to the way I originally wrote them.

Have the old tunes evolved at all?
They're essentially the same, but they got longer as I sat in a room and played them by myself on an acoustic guitar before making the record. Then I went into the studio, where all this other instrumentation—fiddle, banjo, mandolin, upright bass, and so on—stretched the pieces out in a textural way, while bringing in some cool improv elements as well.

How did it feel to focus on an album of *songs*, as opposed to more jam-oriented structures?
Even when I'm working in a more jam-based context, the songwriting side is always important to me. In Gov't Mule it's always important to strike a balance between the songs and the jamming. It's important to consider the big picture, as too much of one aspect would be detrimental to the other. Of course, the new record is a little more centered around songs—none were written



YOUTUBE IT

Haynes and his cohorts put a folky spin on the Rolling Stones' "Wild Horses."
YouTube search term: Warren Haynes Railroad Earth Wild Horses 10/11/2012 Capitol Theatre

WARREN HAYNES' GEAR

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as vehicles for jamming, per se—but there was improvisation within the arrangements.

The record is an obvious departure for you, but in what ways is it an extension of your work with Gov't Mule and other rock-oriented projects?
Each Gov't Mule record has one or two songs that are similar to these, and my solo performances on acoustic guitar have hinted at this kind of thing all along. Whatever the situation, the majority of songs I write start on the acoustic guitar. The lyrical inspiration comes first, then the rhythms and melodies begin to follow. That might be backwards from how others write. I've recently been making myself write the music first, to shake things up and not remain stuck in patterns.

How did you come to work with Railroad Earth?
We met a few years ago when they opened for the Allman Brothers at Red Rocks in Colorado. Later they joined me for a few songs at a festival in Maryland where I played a solo acoustic set, and they did the same for another solo set at the renovated Capitol Theater in Port Chester [in Westchester County, New York, where Haynes lives]. I always thought we had a great chemistry together, so I invited them—with a little more rehearsal and preparation this time—to record the album with me. They were perfect for it.

How did you present the music to the band?
For these recordings, we'd sit in the control room and I'd show them a song on acoustic guitar and sing it. I'd talk to them about what sort of instrumentation I thought would be nice, and then they'd play the song and write their own parts. I often had preconceived notions of the way I thought the songs would go, but things would change based on Railroad Earth's input, and also based on the way songs *wanted* to go after we'd recorded a few takes.

So you didn't share the songs with the group in advance?
I didn't. The songs were brand-new in the studio, and that was intentional. I wanted to capture the fresh energy that comes with hearing something and playing it for the first time.

Did you find yourself playing differently with an acoustic string band than in an electric group?
Yes. As I responded to what was going on around me, I found myself playing differently—and *singing* differently. I needed to come up with sounds that blended well with acoustic instruments, and I needed to respond in the moment to what Railroad Earth does naturally—often a sort of congregational call and response.

Railroad Earth's Andy Goessling on Making *Ashes and Dust*

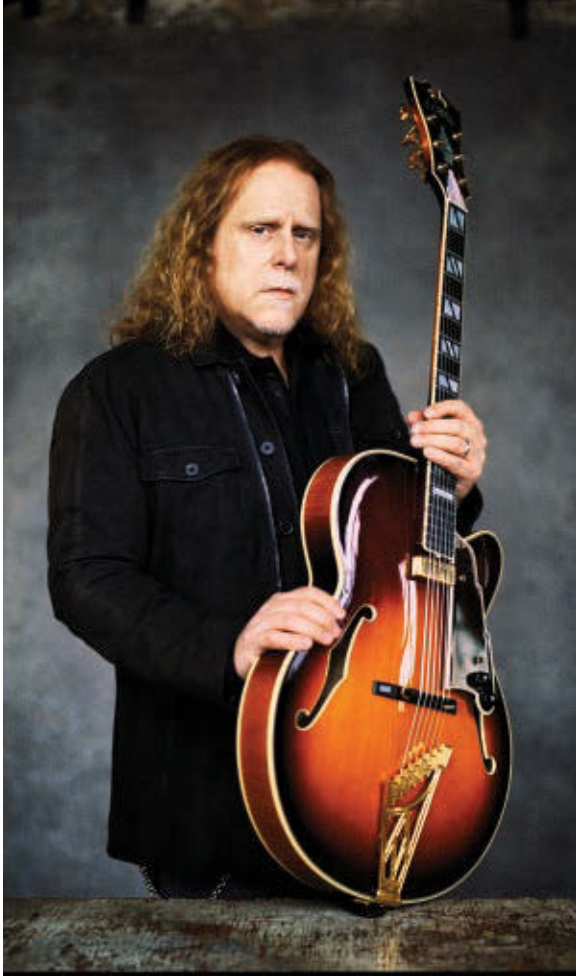
Working with Warren Haynes was great. He's used to adapting to new groups of musicians, so he allowed everyone a lot of leeway to let their natural voice out. We didn't get many direct instructions once he had a feel for how our musical instincts would take the tunes in a positive direction.

Because the studio was down the street from my house, I didn't skimp on guitars! Once I had a feel for what timbre the song needed and what range Warren was playing in, I used a variety of acoustics. I fingerpicked a 1936 Martin 0-17 on "Glory Road" and a 1980 Martin M-38 on "Is It Me or You." For "Coal Tattoo" I played a 1968 Guild D-44, which has a great full strumming sound, but is really transparent. On "Company Man" I played a 1942 Gibson SJ. Warren's tech Eric had his dad's guitar there, a '62 Epiphone Triumph, and I ended up using it for rhythm on "Stranded in Self Pity." I also used my regular stage guitar, a Crafters of Tennessee dreadnought, on a few tunes. Where you hear resonator guitar, it's a 1930 National Triolian, and there's also a '70s Ibanez Artist banjo and a Fluger Weissenborn-style lap slide.

When it was time to record, we'd start with Warren teaching us the song on an acoustic right in the booth. We would chart it, arrange it a little, and everyone would choose an instrument, and we'd just go for it right away. Maybe after a take or two someone might have a new instrument or arrangement suggestion, and we'd decide whether to overdub it or change direction right then and there. Usually the song let us know what was a good idea or not, and we'd just keep going, doing maybe five or six takes at most until we decided the song was there. We were working quickly, and luckily that didn't leave time to over-think ideas.

It felt natural to blend our acoustic instruments with Warren's electric parts, but it does take the right acoustic timbres to set off an electric. I've always been a big Faces and Stones fan, so I use their music as a guide for how to fit things like National steels and acoustic guitars around an electric. I'm definitely looking forward to seeing how things blend when we play the songs live.


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Haynes has owned this D'Angelico New Yorker for some 15 years, and it's featured on *Ashes and Dust*. "I strung it with flatwounds and dialed in a clean, jazz-like sound. This forced me to play differently than I normally do."

I needed to adjust my playing to fit within the tapestry of their music.

What guitars did you use?
I used my 1961 ES-335, my Les Paul, and my D'Angelico New Yorker, one of the earliest reissues, which I've had for about 15 years. I strung it with flatwounds and dialed in a clean, jazz-like sound. This forced me to play differently than I normally do—no string bending, for instance. I've played that D'Angelico a lot throughout the years. I even used it on my last solo album, though that's more blues-meets-soul. As for acoustics, I played my Washburn signature, as well as three different Rockbridge guitars, a 1970s Guild, and an old Epiphone [a 1962 Triumph] that I borrowed from my tech.

Gibson Memphis recently made a beautiful signature model, a detailed replica of your '61 ES-335.
Yes. The good folks at Gibson copied my dot-neck—one of my favorite guitars ever—and they did a fabulous job. It looks just like my original guitar, with that deep cherry stain. The neck feels just the same, and the guitar sounds as close as you can get to one that's more than 50 years old.

Why is that ES-335 one of your favorites?
A lot of players think that the early '60s ES-335s aren't as good as the ones made in the late '50s, when they had beefier necks. But I think '61 is a great year for those guitars. I love the way the neck feels—it's flat but not too small. The old PAF pickups sound amazing, and so does that old wood—I love that on a vintage guitar. Even on a laminated hollowbody, you can sense the warmth it's earned from being broken in over the years.

You play a lot of slide and acoustic guitar on this record.
It was really fun playing as much slide as I did and refocusing on it. I played

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Haynes and Derek Trucks share the love onstage with the Allman Brothers in 2014. "The music means so much to all of us," says Haynes.

Photo by Frank White

plenty of slide in the Allman Brothers, but not as much with Gov't Mule. I also enjoyed playing as much acoustic as I did on this record. It was a challenge for me to be a part of this sonic world, working with musicians who are used to playing acoustic all the time. I'm generally much more adept at recording electric guitars, and it was fun to do something completely different from what I normally do in the studio—all that acoustic work, not to mention the jazzy sounds of the 335 and D'Angelico through small amps.

Describe how you tracked your guitars.
For the electric parts, I had three close-miked amps set up side-by-side: a 1965 Fender Super Reverb, an early-'60s brown Gibson Falcon—that's where all the tremolo sounds come from—and a Carr Mercury that happened to be in the studio. The Carr had a nice, fat, warm sound. Later in the sessions I swapped it out for my Homestead. I always had three amps going at the same time, but could mute whichever ones I wanted to at any point.

For recording the acoustics I had an old Sony mic and a Neumann KM 184—the Sony on the body and the Neumann on the neck—and we pretty much used the same recipe the entire time.

What challenges did you encounter in the sessions?
The biggest challenge was that we tried to record everything as live as possible, with minimal overdubbing. If a finished track felt like it needed a little something extra, we might have added it, but we generally



tried to avoid that. Every record I've ever made, from the Allman Brothers to Gov't Mule, has been all about capturing a live vibe. Ninety-five percent of the solos you hear on the record were what I played on the live tracks. I always tell myself I'll start doing more with overdubbing, where it's so much easier to achieve perfection, but I just can't get away from this approach. It feels more natural.

Did you all play in the same room?
The fiddle, upright bass, and drums were isolated, but all in rooms where we could easily see the players. The rest of us were behind gobos, but again, we could all see each other.

How long were you in the studio?
Probably about 14 days, but we recorded a lot more material than the 13 songs on the album—close to 30.

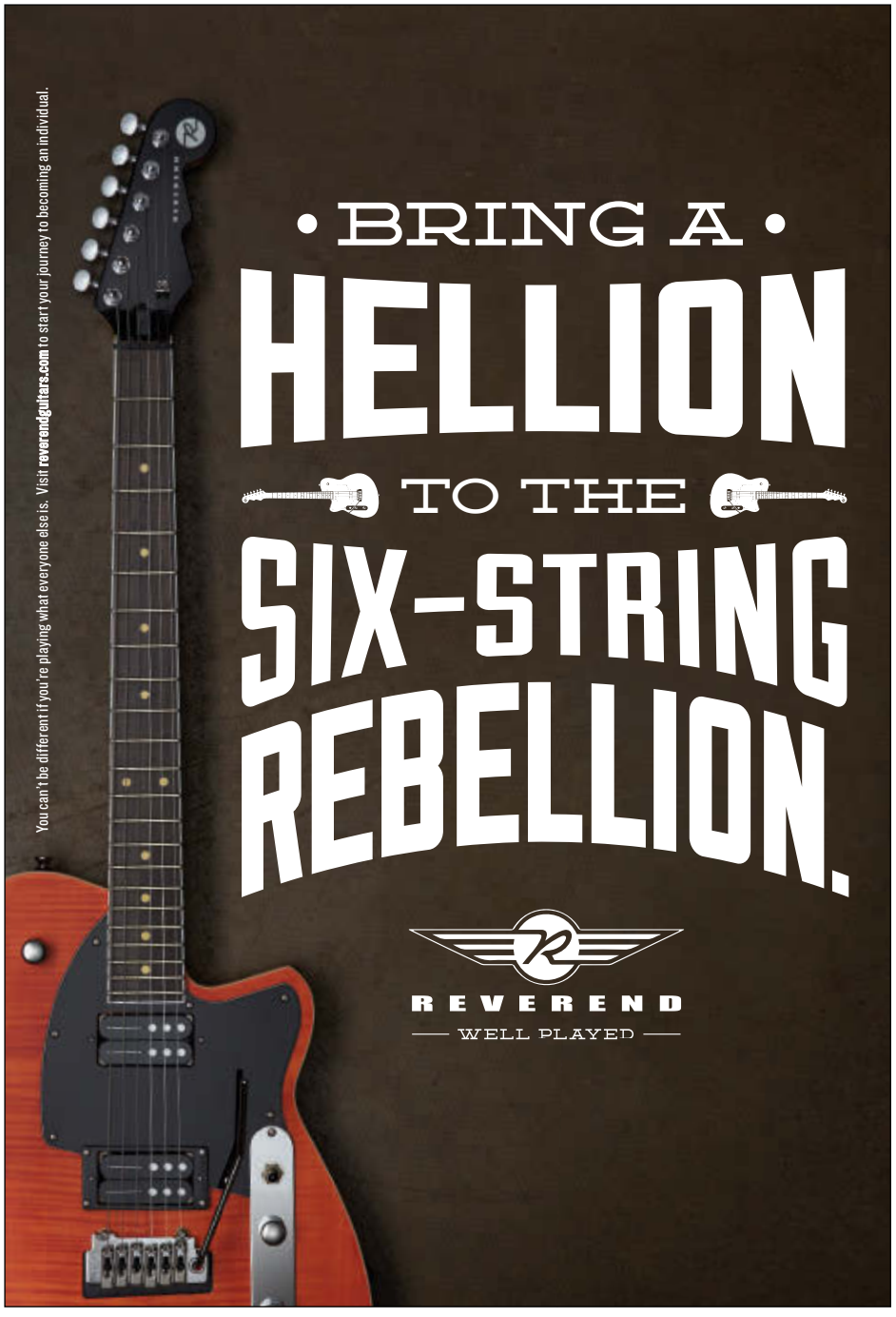
"Every record I've ever made, from the Allman Brothers to Gov't Mule, has been all about capturing a live vibe."

How did you decide which ones to include on the album?
I tried to pick the songs that fit together to make the most cohesive statement—songs that balance off each other nicely and flow together well, but are different enough from each other. Overall, I like a record to have a conceptual feeling, a personality of its own.

On "Stranded in Self Pity," you play some beautiful jazzy lines. What's the extent of your jazz training?
I've been listening to jazz since I was about 14 and have continued to listen to it as much or more than any other type of music. When I was younger, I played in bands that did music similar to the Mahavishnu Orchestra. But I would never consider myself a jazz musician and never pursued the long path to becoming one. Lots of other things occupy my music—I love so many different types and try to take a little bit from everything.

How did you get the creamy slide sound on "Coal Tattoo?"
Mainly by boosting the mids—I played my Les Paul through the Homestead with its midrange boost selected—and manipulating the guitar's volume control.

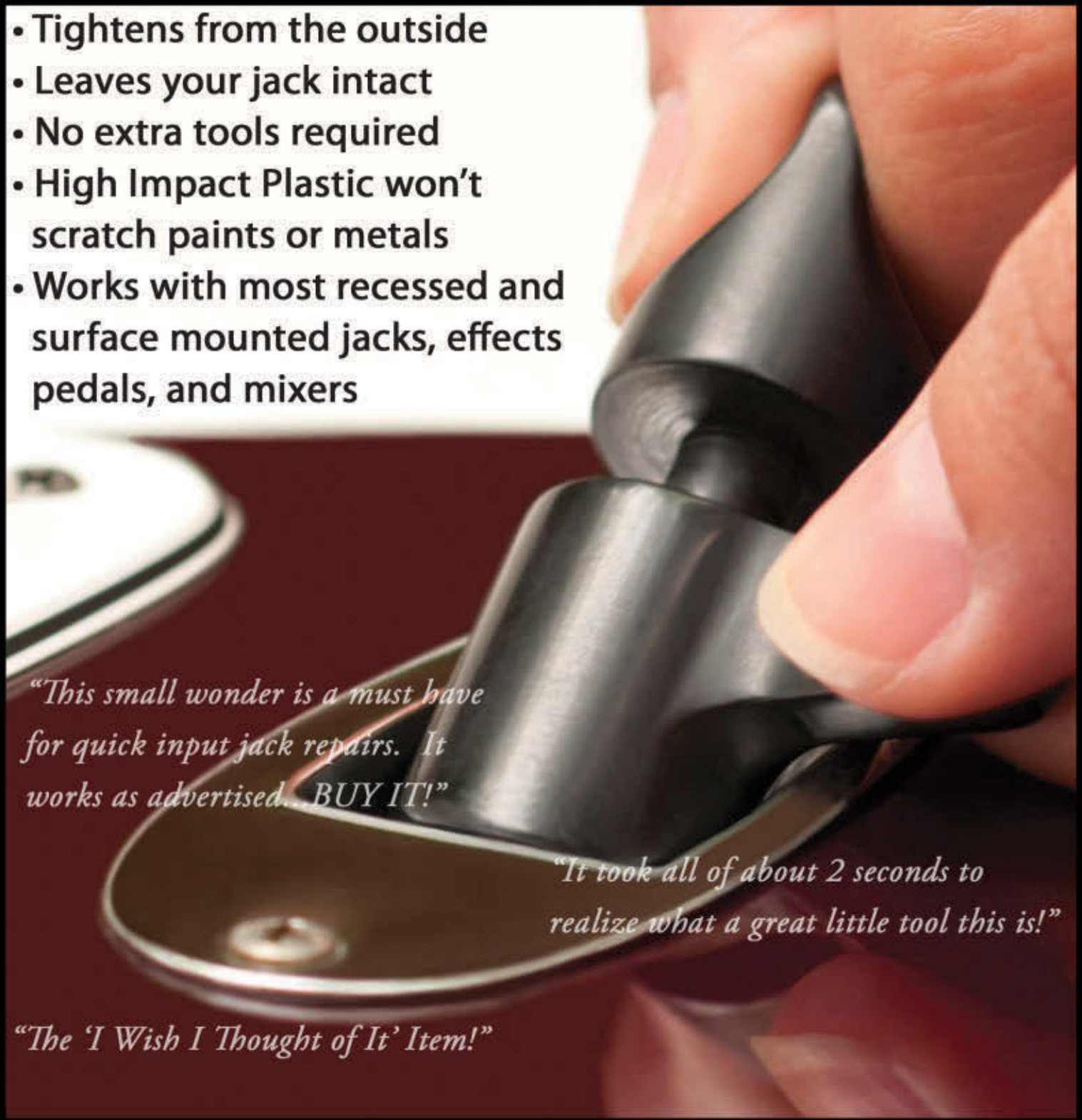
Tell us about leaving the Allman Brothers Band.
The last year was a very emotional year for all of us. Three or four years ago we agreed that we made the right decision to stop touring as a band after our 45th anniversary. But that got kind of convoluted, because at least one member of the band got cold feet and wanted to revisit the decision. [Co-guitarist] Derek [Trucks] and I had already made plans accordingly that we could not change. It was emotional because the music means so much to all of us. I spent 25 years with the band and it was an amazing honor to be a part of the institution that's so important to American music.



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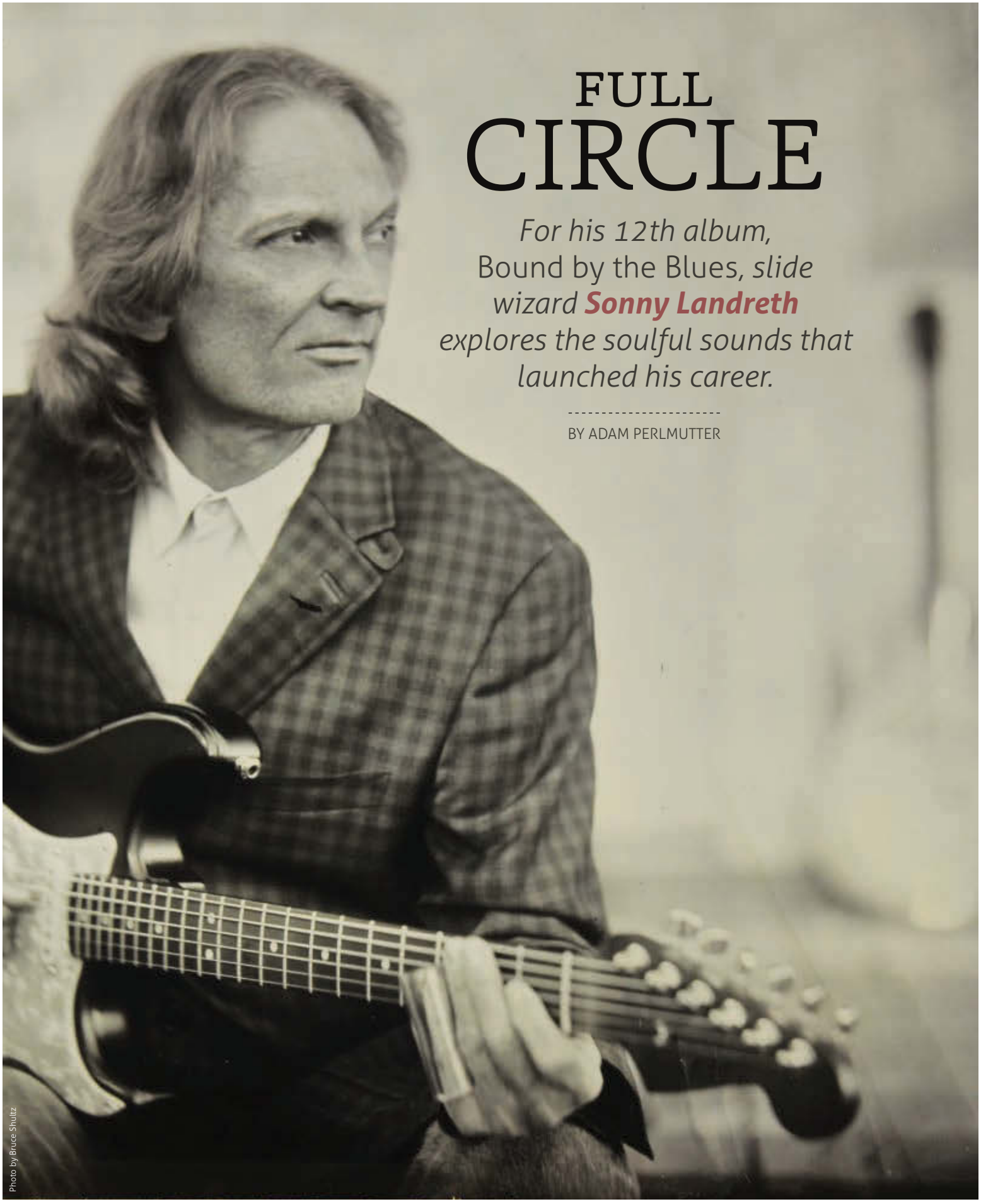
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FULL CIRCLE

For his 12th album, Bound by the Blues, *slide wizard* ***Sonny Landreth*** *explores the soulful sounds that launched his career.*

BY ADAM PERLMUTTER

Photo by Bruce Shultz

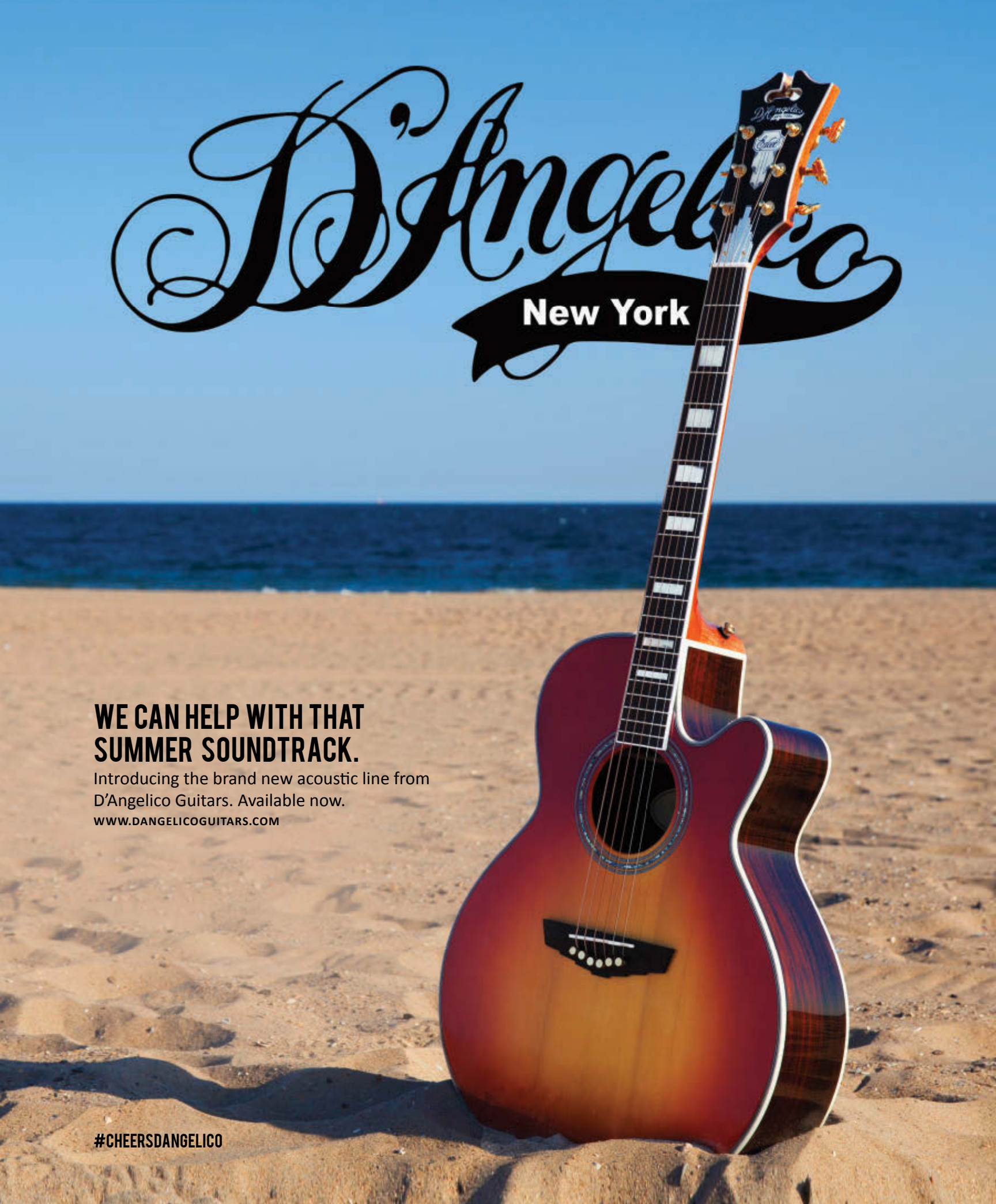


There are plenty of mean slide guitarists, but no one has taken the bottleneck into such uncharted territory as Sonny Landreth. Using unorthodox combinations of slide and three fretting fingers, and an equally idiosyncratic picking-hand technique, Landreth can sound like a Cajun accordion, a searing Chicago blues harp, or a violin plugged into a screaming stack. But while he shines as a solo artist, Landreth is also one of the great sidemen, having toured or tracked with Kenny Loggins, John Hiatt, the late zydeco king, Clifton Chenier, and many others.

Born in Mississippi and reared in Lafayette, Louisiana, Landreth is a product of the South. As a boy in bayou country—a music-rich area that gave him easy access to the deep roots he's always drawn from in his playing—Landreth soaked up Creole and Cajun sounds while studying classical trumpet at school and steeping himself in Scotty Moore and Chet Atkins. It was the perfect storm for Landreth's catholic approach to the guitar.

As with many electric guitarists, the blues has been a catalyst for Landreth's explorations. That soulful sound is always present in his playing, but was especially prominent on his first solo album, 1981's *Blues Attack*. It's also the focus of his latest record, *Bound by the Blues*, which Landreth recorded with a stripped-down trio featuring drummer Brian Brignac and bassist David Ranson. *Bound by the Blues* is a sharp departure from Landreth's previous album, *Elemental Journey*, which included members of the Acadiana Symphony Orchestra, steel-drum legend Robert Greenidge, Joe Satriani, and Steve Vai.

Speaking from his home in Lafayette, Landreth explained how he uses the slide to tie together his eclectic influences, and how he approached writing and recording *Bound by the Blues*.


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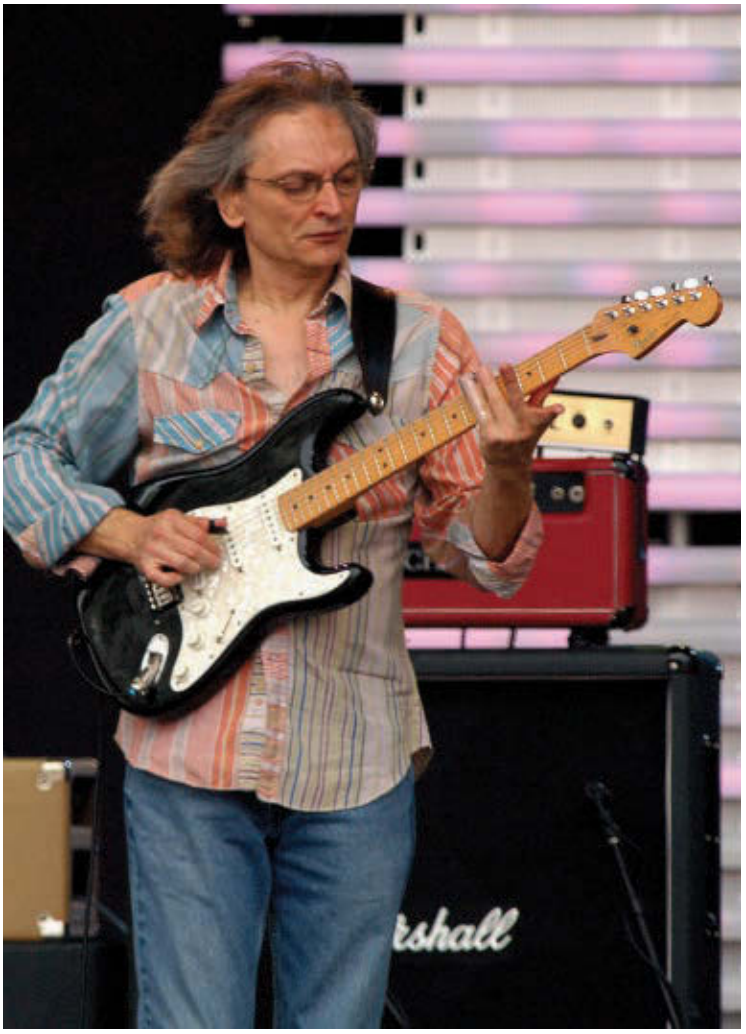


Photo by Dan Locke/Frank White Photography Agency

The title track of *Bound by the Blues* is evocative. What does it mean to you?

It makes reference to blues being the universal language—one that speaks to people everywhere—and to our challenges in the face of adversity.

In making this album, how did you put your own imprint on the blues?

That's a very good question. Therein lies the challenge, and it's exactly what attracted me to taking on this project. I decided to do another blues record because it had been a while, and it was so important to me. The music has always been a big part of who I am. Some of the songs I recorded have been done to no end, so I needed to bring something new to the table.

I love the surprises that can happen when I make an album. After more than 35 years of playing these songs—"It Hurts Me Too," "Dust My Broom," and "Key to the Highway"—with many different players, I found the tunes had taken on lives of their own. I realize how different I'm playing them now than when I first learned them. It struck me that as time has passed, I've subconsciously brought fresh sounds to the songs with new techniques and new discoveries that have happened along the way. It felt quite profound, and it was beautiful to circle back

around to this music. It gave me a greater appreciation for who I am.

How did you prepare for the recording?
The songs are standards for a reason. I really try to go deep to find out who originally played each one, who recorded it over the years, who ripped the other guy off, and so on. The next thing you know, you're back in Africa, investigating words from tribes and dialects. The music becomes so much more complex and rich as a result.

Who were your musical benchmarks for this album?
I wanted to pay tribute to my heroes: Lightnin' Hopkins, Muddy Waters, Jimi Hendrix. It would take hours for me to tell you about *all* my heroes. [*Laughs*.]

On the title track, you also name-check Buffy Sainte-Marie.
I've never really talked about Buffy Sainte-Marie's influence, but she was such an important activist—she was right there with Dylan and all the other folk greats—and she really made different music. She's Native American, and her work often deals with all the history that her tribe has been through, touching on things that are far more profound than what I can wrestle into a song.

***Bound by the Blues* has an old-school feel.**
Not long before making the record I worked with a symphony orchestra for the first time, where I was exposed to very complex array of sounds. For the album, I did a 180-degree turn and used just a bassist and drummer. We went in and cut the record live, just like we play the tunes night after night in concert. Some of the tracks—"Where They Will," for example, which goes back to acid rock—used just the three pieces: bass, guitar, and drums. But for the title track and a few other tunes, we used a little layering to get across the ideas and to build drama in the choruses.

The vocals sound fantastic—did you nail them live in the studio?
Due to allergies my voice was in really bad shape at the time we recorded the songs, so I had to re-sing a lot of the tracks. It was a lot of



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work, but it resulted in what are probably the best vocal tracks I've ever recorded.

Throughout, the record has some unusual sonic effects.

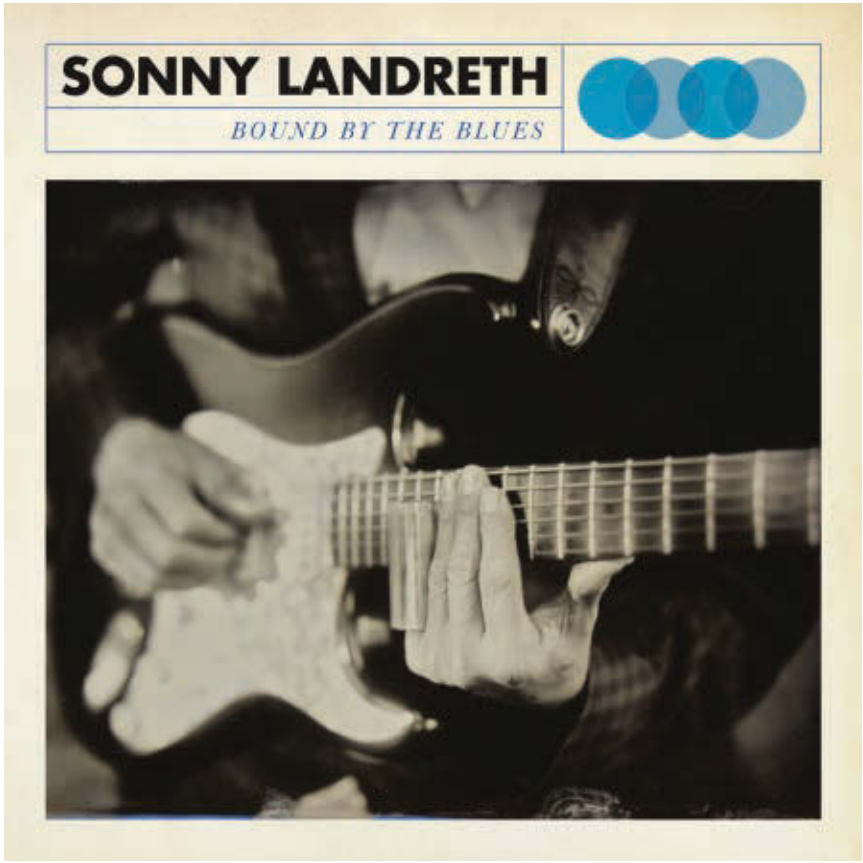
I wanted to get back to really cool, organic sounds. Instead of traditional drums, we sometimes used cardboard boxes for snares, or metal, or anything that seemed cool as a sound source for percussion. On "Dust My Broom," Dave wrapped the neck of his bass with cloth, to mute the strings and get a more staccato sound. He also brought in a ukulele bass, and I couldn't believe the sound he got from those nylon strings—it was so immense. We must have used the uke bass on four or five tracks.

What guitars did you use?

I used a bunch of different guitars to have different colors and timbres, and to keep things interesting. Robben Ford loaned me his 1958 Strat for a few years and I used it, tuned to D, on "Dust My Broom." I also used my '60 [Les Paul] burst in G tuning on "Simcoe Street," an old 1930s National tuned to A minor on the title track, and a 1990s Dobro in D tuning on "The High Side." And of course I played my old Gibson Firebird in some spots.

I assume the Firebird makes an appearance on the instrumental "Firebird Blues."

I did use the Firebird on that track. Johnny Winter died when I was just about to make the album, and that hit me really hard. So it's an instrumental tribute to Johnny with raw guitar, the cardboard box drums, and the ukulele bass. The Firebird is a real special one for me. Back in the day I played in an improv blues band and I bought the guitar from a buddy in the group. It must have been about 1971 or '72. I played it for a long time, mostly fretting and flatpicking before using it for slide around 1980. I played the guitar extensively when I toured with John Hiatt in the late '80s, but I don't travel with it anymore. Unfortunately, overhead bins aren't too friendly to guitars.





YOUTUBE IT

Landreth brings his slide fire to an orchestral setting.
YouTube search term: Sonny Landreth with Acadiana Symphony Orchestra

What's special about the Firebird?

It's got great sustain and rings like a bell. It's so lively when played acoustically, probably because of its neck-through-body design. The pickups are the old mini-humbuckers, which have this unique sheen on the high end, not at all harsh. My Firebird works great for slide—it's beautifully voiced for that. You can find sweet spots on the neck and just hold the notes forever.

What other guitars have you been playing lately?

For the most part I've been playing Fender Strats—a pair of prototypes of my signature model. Working with Fender has been an epic project, going on for some years now. The neck on each guitar has a unique profile, made for what I like to play. They've both got a Telecaster bridge bolted onto a tremolo block for more sustain and character. One has a maple neck and the same DiMarzio [Fast Track DP181] pickup I've used for many years in the bridge. The other has a rosewood fretboard and Lindy Fralin Vintage Hot single-coils. I hope the guitars see the light of day by the end of this year—they work so brilliantly for slide.

Do you ever play without slide?

On some of my early albums, I did play without slide, but I haven't done it in a while—at least not officially. Some of

my friends heckle me about that. But for the time being, playing with Robben Ford or Eric Johnson, I let them do all that non-slide stuff. Slide is my true voice, but I do love playing without it, and so maybe some day I'll get back to that.

Do you use alternative tunings exclusively? And how do you decide which tuning to use for a given song?

For the most part. Sometimes I gravitate toward a tuning that matches the key. If a song's in E major, open E is an obvious choice. There's so much you can do with the open strings, playing on top of them harmonically, melodically, and rhythmically, or playing on top of overtones to create sound collages for completely different textures. Other times, I might tune to a chord other than the tonic of a song. That way I can find all different kinds of cool nooks and crannies I wouldn't find otherwise.

What's drawn you to focus on slide for all these years?

Slide is a wonderful thing—it can really create a sound that emulates the human voice. I feel comfortable playing in a lot of different styles, and that's great, but you have to be careful about going in *too* many different directions at once. In any case, slide gives me a focal point to catalyze all influences, sounds, and genres. It's a tool to unify everything.

How did you develop your idiosyncratic slide technique?

It's definitely a work in progress. New learning never ceases, as far as I'm concerned. One thing that's helped me a lot is that I started on trumpet, so by the time I picked up a guitar, I had more of a wind player's perspective. I had a natural sense of where to take a breath and a natural sense of melody. At the same time, I learned a fingerstyle approach in the Chet Atkins tradition while experimenting with the slide and learning blues. The slide has the potential to create lots of different sounds and colors with a vocal, soulful quality, and that set me on a path. Listening to the other musical instruments common in Louisiana, like fiddle and washboard, not to mention jazz, New Orleans second line, and R&B, I had such a great backdrop to draw from.

From a musical perspective, it must have been amazing to grow up in Louisiana when you did.

I grew up hearing all kinds of music: Creole, Cajun, blues, and jazz, and on the radio, pop and rock. I started playing trumpet at 10 and guitar at 13. I had strong jazz and classical influences at school, while I got to hear all my guitar heroes live. In my teens, I caught B.B. King and Jimi Hendrix at little clubs in Baton Rouge in the same year. All these influences combined to have a prodigious effect—they made me want to raise the bar really high and be open to all styles.

Your music features a lot of improvisation. What's the extent of your jazz training?

Certainly not as deep as I wish it could be, but I do have some background in jazz. In college there was a course called jazz lab that gave students the opportunity to play big-band charts and bebop, and I had a great jazz guitar mentor who would help me with those charts. I certainly don't consider myself a jazz musician—I don't have the repertoire, I guess you might say—but the genre is definitely an influence.

Sometime I might want to take jazz head on, and also classical. I had a great experience when I worked with the Acadiana Symphony Orchestra. The conductor, Maestro Mariusz Smolij, came over from Poland, and he has rock 'n' roll sensibilities. We just hit it off, and it was great to get into that world and apply slide guitar to it. For instance, it was so challenging and rewarding to play J.S. Bach on slide guitar. It gave me a completely different arena to work in, with lots of potential for new and exciting sounds.

What advice do you have for aspiring instrumentalists?

Woodshed on the gig. As much as you can learn sitting on the couch, there's nothing like playing in a band to take your playing to the next level. You learn to draw energy from the crowd, how to lead one idea into another, and to be open to whatever idea emerges. And you can learn a lot from your bandmates. It's important to keep your antennas up to see how they do things, and to trust your intuition to put your own spin on things.

On electric guitar, one of the best things you can do is turn on your amp and just play. Eventually you'll hit on something and think, "Where did that come from? I've never played that lick or tried that approach before." That's what's inside of you, and you learn to trust it. The greatest affirmation is to learn from yourself.



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ICONOCLASTIC VIRTUOSO RICHARD THOMPSON REVISITS HIS ROOTS ON A NEW ALBUM PRODUCED BY WILCO'S JEFF TWEEDY.

BY MICHAEL ROSS

Photo by Matthew Condon



Thompson is a longtime Lowden user. This cedar-topped Richard Thompson Signature Series is his main flattop onstage and in the studio. He amplifies it via a Sunrise magnetic soundhole pickup.

When rattling off the pantheon of game-changing rock guitarists, the same names often come up: Clapton, Page, Hendrix, Beck, Van Halen. But the equally revolutionary Richard Thompson is rarely included. His style may be less mimicked, and he veers more toward clean tones than rock-approved distortion, but Thompson's unique blend of British fiddle and pipe music with country-style string bending has given us decades of guitar work as jaw-dropping as that of the legends above.

Thompson first came to prominence in the late 1960s as a member of Fairport Convention, a group noted for mixing of American roots rock and traditional Celtic styles. After leaving Fairport, Thompson duetted with wife, Linda Thompson, on some of the most intense recordings of the '70s and early '80s. Their albums offer exquisite and literate songwriting, heartfelt vocals, and consistently breathtaking guitar work. Since splitting from Linda, Thompson has released dozens of solo records, generating a catalog of tunes envied by countless songwriters.

Thompson also has an uncanny ability to find greatness in cover tunes, while making them entirely his own. When asked by *Playboy* magazine to choose the best pop songs of the millennium, he took the question literally, offering a list of tunes ranging from the 13th-century "Sumer Is Icumen In" through Britney Spears' "Oops!...I Did It Again." While Hef never printed the list, Thompson developed it into a show and a recording.

On his latest record, *Still*, Thompson miraculously manages to maintain his high-level songwriting, deliver his signature finger-twisting solos, and mimic guitar styles associated with five of his personal guitar heroes. Speaking from his California home, the transplanted Brit tells *Premier Guitar* why he likes Britney and why he avoids blues licks.

Early on you played a Les Paul but quickly switched to a Stratocaster. Why?

In the mid-'60s everybody in the U.K. was playing a Gibson: Peter Green, Mick Taylor, Eric Clapton, etc. I was offered a Les Paul goldtop with soap bar pickups, which had just come over from the States. It was an opportunity to trade up from the Hofner I had at the time. But after a year or so, I thought, "All the guitar players I like—James Burton, Magic Sam, and Hank Marvin—are Fender players. Perhaps I should be playing a Fender, because I'm trying to do Fender-y things, like country string bends." I switched over to Fenders in about 1968. I prefer them because they have a lot more bite. When you're looking for a tone, you're trying to create a sort of voice. I thought something with a little more treble would be more satisfying.

Photo by Matthew Condon

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Wilco's Jeff Tweedy [right] produced ***Still***, Richard Thompson's new album. "His influence is subtle to the listener," observes Thompson, "but he had an effect on arrangements, song structure, instrumentation, overdubs, and particularly on who plays on the tracks."

You mentioned country bends. Is that why you started using light-gauged strings?
Yeah. I use .009s. I'd started off on medium-gauge strings, but figured out that Chuck Berry, James Burton, and other people I listened to were using lighter-gauge strings. At some point, it became common knowledge in the U.K. that if you move all the strings over one and use a banjo string on the high E, it gave you a lighter gauge. Eventually, somebody started manufacturing actual light-gauge strings.

Did you develop hybrid picking on your own, or had you sees James Burton or someone else do it?
I never saw anybody else do it. I was never conscious of playing that way until somebody pointed it out. When I was about 12, I did a year or two of classical guitar. At the same time, I learned to play with a plectrum. Sometimes I would be too lazy to put the plectrum down when I switched to fingerstyle. I'd just start playing with a pick and the available fingers. Eventually, it became the way I played electric and acoustic. I noticed later that Albert Lee and Glen Campbell did the same thing. But at the time I was unaware of other people doing it. I was unaware of *me* doing it!

Had you ever played with a thumbpick and fingers?
Absolutely. I used thumbpicks and fingerpicks when I was playing in folk clubs in my early 20s. I tried everything, but at some point you settle on a technique and try to develop it.

Buddy Miller produced your last record, but for this one you switched to Jeff Tweedy. Why the change?
I've made a lot of albums, and sometimes you need to change some elements because your thinking becomes predictable. It's nice to bring in another set of ears, someone who can make suggestions in the studio that help toward a better end product. That happened with Buddy—I made a really good record with him. It happened with Jeff Tweedy as well.



What did Jeff bring to this record?
In terms of sound, Jeff makes fairly transparent records. The Mavis Staples record is all about Mavis Staples, not about him. The same thing happened with my record. His influence is subtle to the listener, but he had an effect on arrangements, song structure, instrumentation, overdubs, and particularly on who plays on the tracks. He brought in Jim Elkington from his band Tweedy as a second guitar player. That was an inspired idea, because Jim is a great guitarist and a tremendous, empathetic listener. He also brought in singers from Tweedy, Liam and Sima Cunningham, who did a fantastic job.

How are his arrangement choices different from, say, Buddy's or yours?
He sometimes suggested a different rhythmic approach. We rehearsed the songs with my trio before going to the studio, and he would say, "You're trying

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Photo by Zoran Orlick

too hard to be funky and tough on this particular song. If you straighten it out, it will sound better, funkier, and tougher." Another time he suggested stripping out some of the chords to help the song's tension and release, which it did.

Did he record differently than Buddy did?

It was similar. Buddy has a studio in his house. The drums occupy a lot of the main room. The guitar amps were in a cupboard, the vocalist was in the kitchen, and the bass player was in the main room with the drums. We had good sightlines, but were a bit separated. It's a funky way of recording, but very effective. Jeff's loft is a space about 100-feet long, stuffed with instruments: hundreds of guitars, maybe 50 basses, dozens of drum kits, keyboards, and endless amps. The studio is in a corner of this space. The drums are slightly baffled, but within that open space. You're singing on the basic tracks. It's a different kind of relaxed environment. Again, it's not a real "studio" studio where everything is more separate, but a creative space—a nice relaxed atmosphere in which to record.

How much of this record was laid down live?

Pretty much everything. Select vocals and guitars were redone or patched, and some guitars were layered. Even on "Guitar Heroes," which goes through five separate quotes from other guitarists while changing tempo and feel frequently, we decided the best way to record it was to do it live in one go. If we wanted to change the guitar texture, I could overdub different guitars. If I wanted to sound like Hank Marvin, I could play on a Strat, and for James Burton I could go with a mid-'50s, Telecaster—all of which are hanging on the wall at the Wilco loft. For the Les Paul section, there was a row of Les Pauls to select from, which was fun. There were lots of amps to play through as well. I played through so many amps I can't remember what they all were. I did use a Morgan, a Vox-like amp that sounds really good. I used a couple of old Fender Princetons and an old Deluxe. There were lots of toys to play with.

Did Elkington or Tweedy play on tracks with you?

Yeah. On the road, we're a trio, but sometimes in the studio you need more harmonic information. Your trusty trios like Cream or Hendrix would overdub rhythm guitars to make a fuller sound in the studio. It was really nice to have a second guitar player to play something live that I'd often overdub afterwards anyway. Jim could pick up on my style very quickly—being English probably helped. Jeff played live guitar and keyboards on some things.

On "Josephine," there are two beautiful intertwining acoustic parts. Are they both you?

That is all me. There's a strange genesis to that track: I originally put down a



clawhammer rhythm guitar part and live vocals at the same time. I overdubbed two more guitars as counterpoint to the original guitar and for the solo. At some point Jeff said, "Look what happens if I turn the original guitar track off." Miraculously, there was no spill between the voice and the guitar. Without the original guitar, it took on this other strange interpretation. We liked it more than with the original guitar, so we just left it like that.

Did you use different acoustic guitars for the different tracks?
I think all those tracks are my Lowden signature guitar.

Do you mic it or go direct?
It's miked. I can't remember exactly what we used, but it was a Neumann 84-style mic.

Which electrics did you use?
Predominantly the red Stratocaster I use onstage, which is the most comfortable instrument for me. I pulled other guitars off the wall for various sounds. To sound like Chuck Berry, I pulled down a big-bodied '50s Gibson.

What year is the red Strat?
It looks about 100 years old, but it's probably two years old. It's different bodies and necks that have been assembled by my guitar tech. The pickups are all different—I can't remember what they are. It's an amalgamation of bits, but they're all Fender bits.

Was the body pre-distressed, or did it get that way through use?
Using it on tour has not helped its condition, but I think it was left out in the sun for a couple of years to get the color right. It started out as Fiesta Red and is now something like coral. It's had a hard life so far.

Are you using amp tremolo or a pedal?
I use amp tremolo if I can. It just sounds a little warmer. But I also use pedals that can pretty much do the same thing. On the record I probably used both. There are hundreds of pedals at the Wilco loft space.

What pedals are you using on tour?
I use a Fulltone tremolo and OCD overdrive. I use a Carl Martin Vintage Series Red Repeat delay—it's digital, but it sounds very warm.

This record seems to sound drier than some of your others. Was that something Tweedy encouraged?
If a studio doesn't have a really good echo plate or live chamber, I'm reluctant to use too much digital reverb instead. I can hear the difference, and I don't like it to sound too shiny. It's nicer to have it in your face and stripped-down—a more realistic sound. That was our shared aesthetic for this record.

Let's talk about "Guitar Heroes." Why did you do the Les Paul tribute solo on acoustic guitar?
That is a very good question—I'm glad you asked it. As I said, we cut the basic tracks live. I first played the whole song on acoustic. The plan was to keep the acoustic for the Django section, and then switch to electric for the Les Paul section. I did the double-speed guitar on a Les Paul, but for some reason I thought it would be nice to keep the acoustic for the rest, and then switch to electric for the Chuck Berry and James Burton sections.

Did you do the high parts of the Les Paul section by playing to a slowed-down track?
Yeah. Because we were recording to 24-track tape, it was easy to play at half-speed. We could do it old-style.

Was there a click to help you stay in time at half-speed?
I was getting enough rhythmic information without one. The beat is a little woolier, a little more vague, but it's still there. You can hear enough to keep in time.

Which guitar influences didn't you get around to for "Guitar Heroes?"
Apart from Charlie Christian and some other jazz players, I was listening to rock players like Mike Bloomfield and blues guys like Otis Rush. If we put in everybody I listened to in the '50s and '60s, it would be a 14-hour song. Back then—and certainly now—I listened to a lot of other instruments, because listening to just guitar players gets a bit incestuous. If you listen to other instruments, you stand a chance of expanding the guitar vocabulary. I listened to pianists when I was younger and tried to do things a pianist would do, or what a sax player or trumpet player would do.

You used to do fiddle and pipe tunes as well.
They were also a huge influence. I like to use drone strings—that's from the pipes and the fiddle. I like to use fiddle inflections on the guitar—the hammer-ons and pull-offs are very fiddle-derived.

It's interesting you mentioned Otis Rush, yet you almost never play standard blues licks. Have you deliberately avoided that style?
Fairly early on, I thought, "There are so many guitar players playing the same blues clichés. I'll avoid some of these things in my vocabulary and play more Celtic things." I've pretty much stuck to that ever since. Culturally, the blues is not important to me. I try not to play B. B. King or Eric Clapton licks, or any of that stuff. At some point, it became a stylistic choice to try to be different.

Wasn't the whole Fairport aesthetic to develop rock music based on a Celtic background rather than on an American one?
Absolutely. We got to a point where we thought, "We will never play the blues as good as somebody from Chicago." We'd never been to Chicago—never even to America. We would never play country as good as Hank Williams, or soul as good as Otis Redding. If we played music that was more indigenous, music that reflected where we came from, we stood a chance to excel and to be the best in our field. It gave us originality, a style of music more satisfying and rewarding to us. That turned out to be a good choice, and I'm still on a mission to play solid music that's more about where I come from than what

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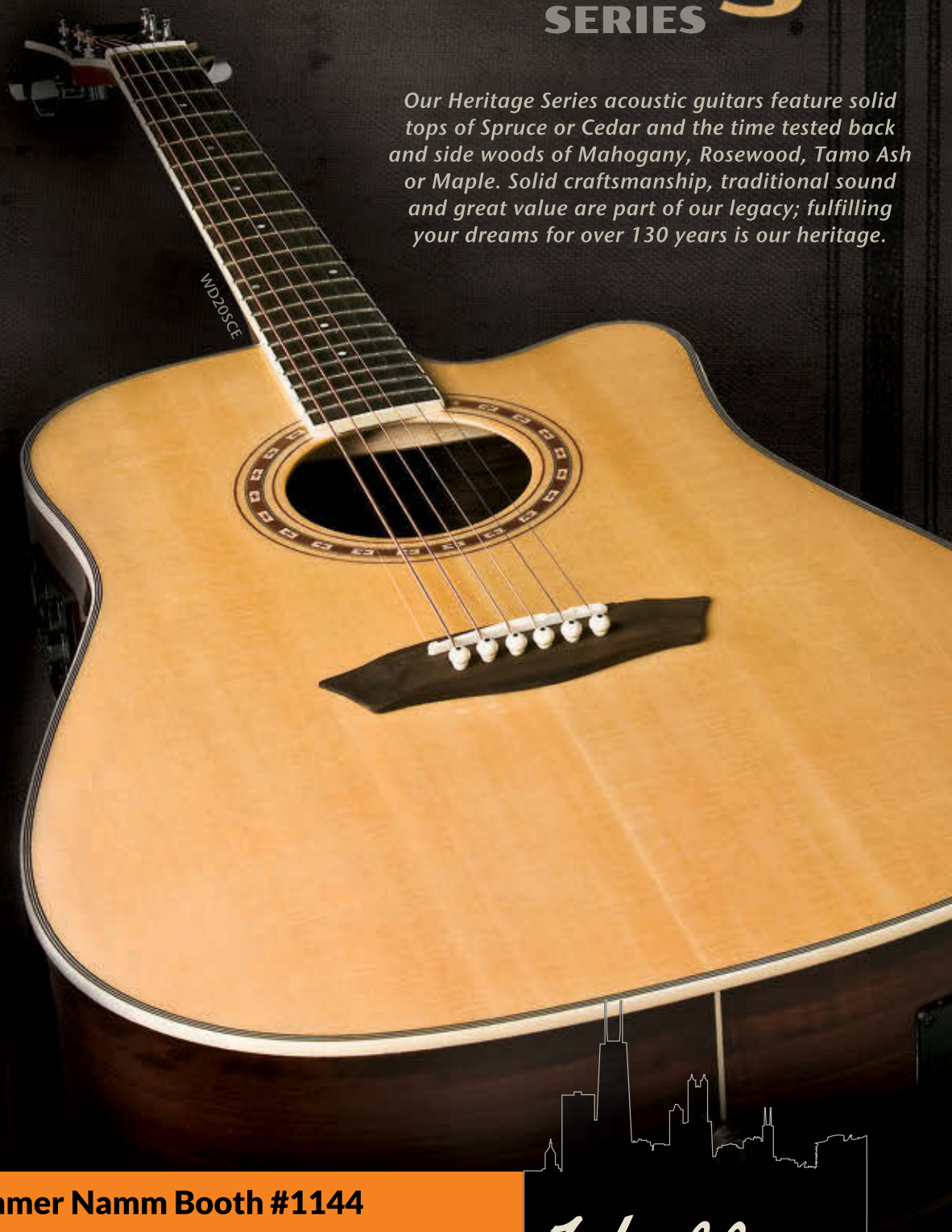


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is popular. Hopefully, there's an overlap, and it's at least vaguely popular, but I can satisfy my soul playing the music that echoes the country of my origin.

Do you have any tips about how guitar players can meld influences into a personal style, as you have?

All really great players have their own voice, and it's usually recognizable fairly quickly. As a younger player you listen to the players you enjoy, admire, and would like to emulate. At some point, you develop the synthesis of everything you have listened to. It becomes your own sound and voice.

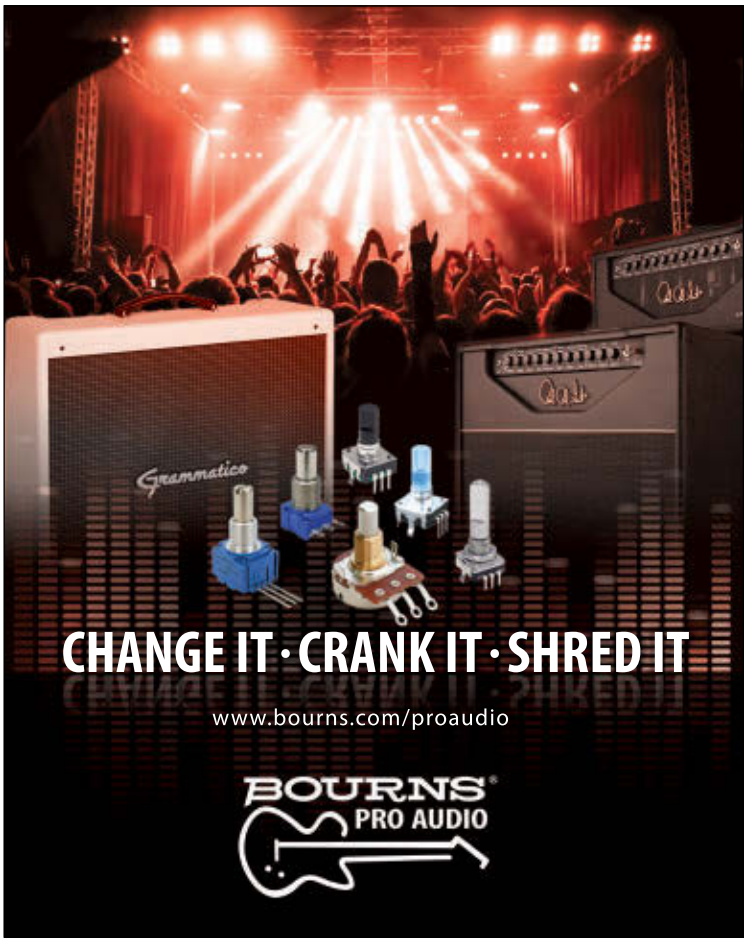
On your record *1000 Years of Popular Music*, you do amazing versions of Britney Spears' "Oops!...I Did It Again." and Bowling for Soup's "1985," revealing them as genuinely great songs. Why did you pick those two?

Some people will be surprised to hear an old folkie doing versions of those songs, but I think they're valid contemporary songs. We had to pick something contemporary to finish the show. If you play the Britney song acoustically, taking away the bombast of the record, it's easier to see the structure and hear the nice sardonic lyric. The chord structure to "Oops!" is not that different from a European dance tune from the 1600s. Sometimes we play it in the style of a 16th-century dance tune just to bring the whole cycle to closure. So, yeah—we love you, Britney!

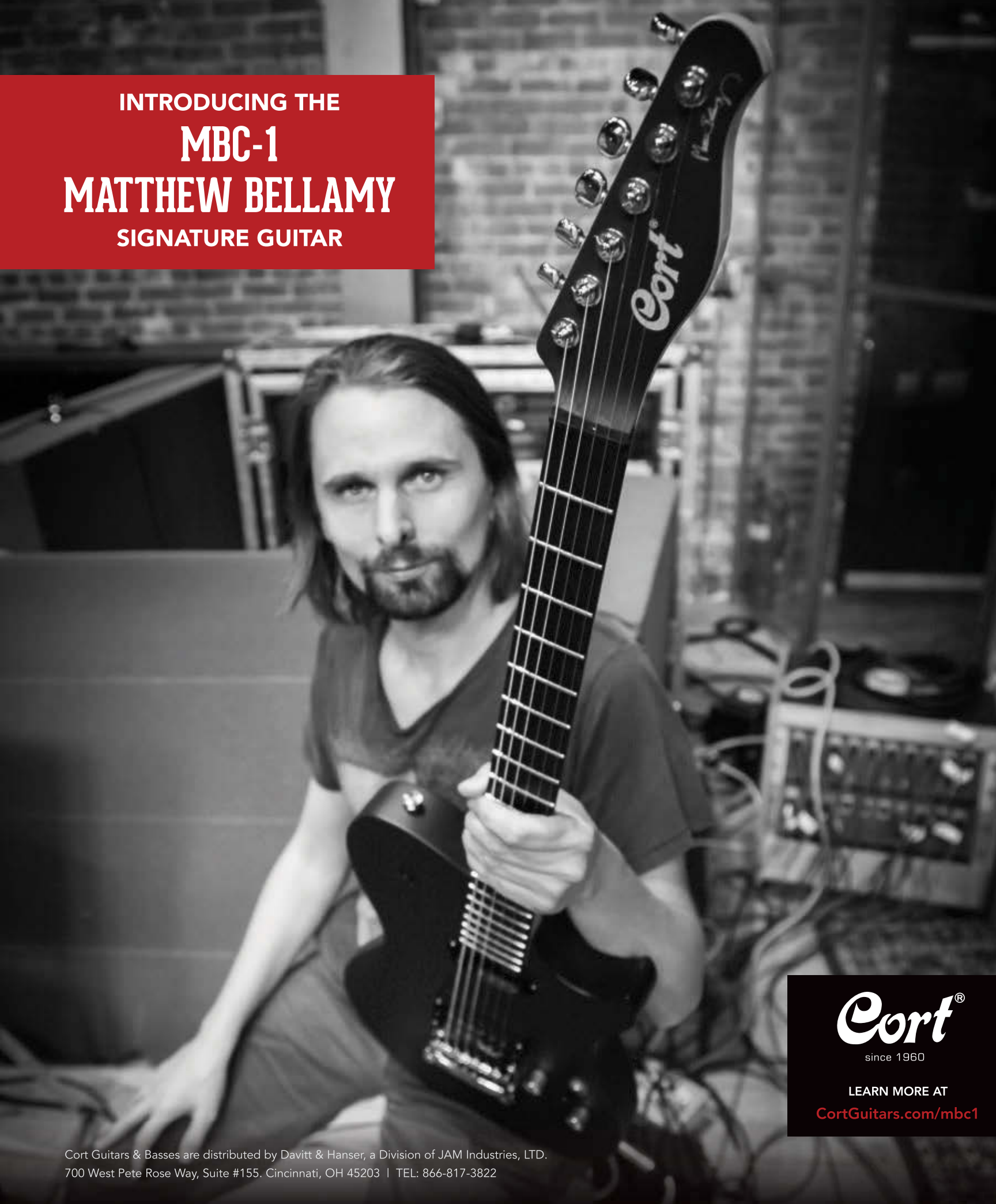
After more than 60 records you still come up with great songs. Does it help that you write as many songs from your imagination as from direct experience?

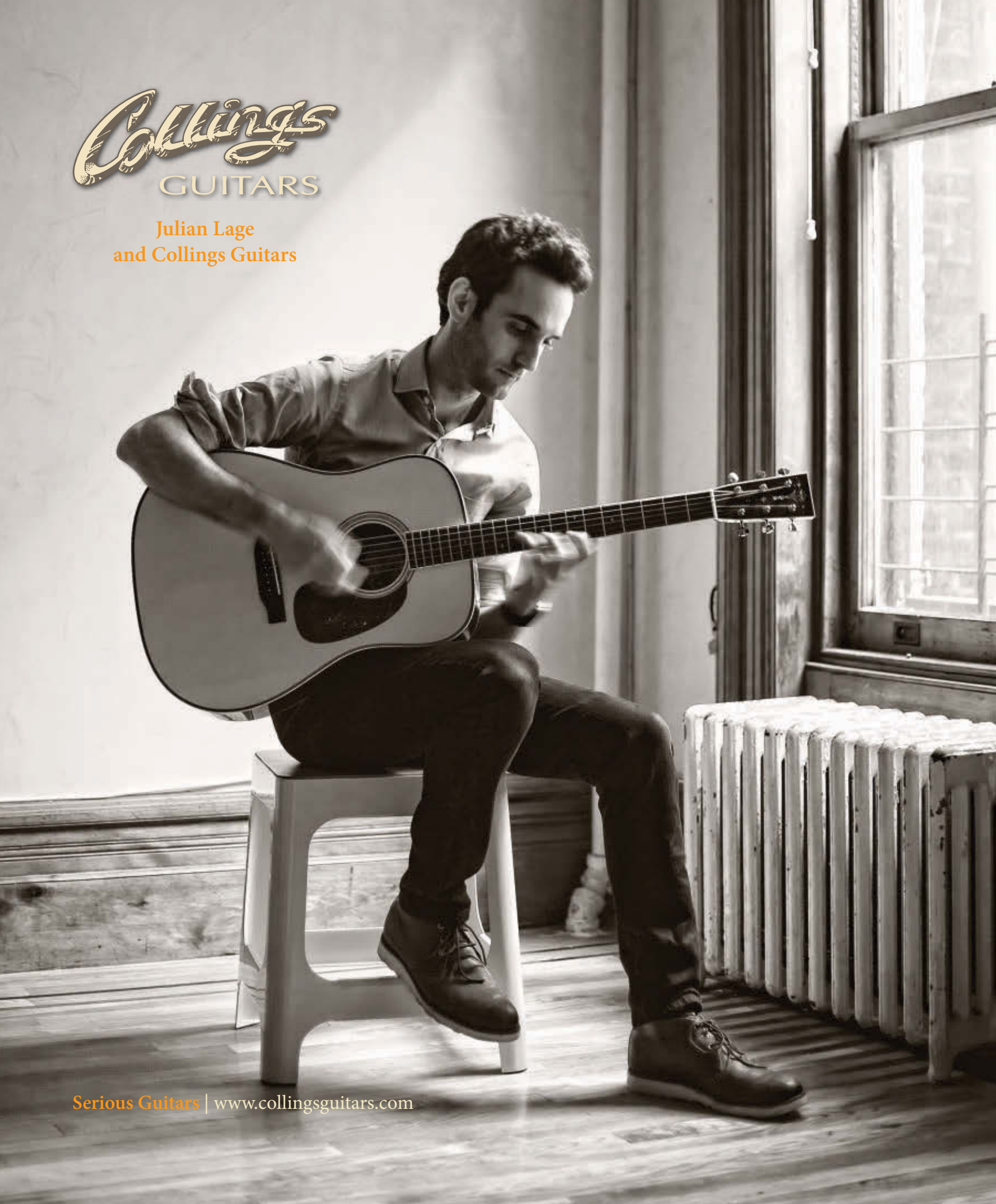
I think it's nice to have both. Sometimes things happen and you think, "I have to deal with this—I have to express it," so you write a song about it. Sometimes an unresolved aspect of your past comes back to haunt you—that's another kind of song. And then, there's the song where you sit down and write a fictional story, just for fun. You start with a line that leads to another line, and another line, and then suddenly, you've written something. You say, "Well, that's interesting. I have no idea what all this is about. Is this about me? Is it about somebody else?" You might not answer that question and just enjoy the song. Perhaps down the road you think, "Actually, this *is* about me."

Whatever you write about tends to be about you somehow, even when you're writing about other people. Some artists only write about their own lives. That's fine if you have the talent and skill to make it interesting to other people. Other people write in a confessional way and don't have the art to make it interesting. Sometimes fiction, or fictionalized reality, is a wonderful thing, because it becomes more absorbable for the listener. It's nice to be able to approach songwriting from different angles, and, as you suggest, sometimes the imagination keeps you fresh and stops you from becoming too self-absorbed, self-obsessed, and all those other things we're not supposed to be.






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FINGERSTYLE GUITARIST **RYLEY WALKER** CHANNELS THE PAST TO CREATE A FRESH TAKE ON FOLK MUSIC.

BY TZVI GLUCKIN

At first glance, *Primrose Green*, the new release from Chicago-area fingerstylist Ryley Walker, conjures up some serious '70s mojo. Just dig the cover art—an overdose of green; long, flowing hair; a fistful of wild flowers; and a photograph that oozes Van Morrison. But don't miss the point: Walker is anything but a throwback. He boasts prodigious skill, an ear for diverse styles, and a knack for attracting Chicago's top talent as sidemen. He is a creative, cutting-edge player with deep roots and a willingness to give a nod to the past.

Walker grew up in Rockford, Illinois, about an hour northwest of Chicago. His interest in music started with Led Zeppelin. "That's the genesis of some kid from Rockford, Illinois," he says. "Getting into music is to get into Led Zeppelin."

Eager to expand his sonic horizons, Walker used Zeppelin as a gateway to older music. "'Black Mountain Side' is a rip-off of a Bert Jansch song," he says, "so that's how I heard about Bert Jansch. They had a song called 'Hats Off to Roy Harper.' I thought, 'Who the hell is Roy Harper?'"

But as a millennial, Walker was also interested in contemporary music. He listened to Dinosaur Jr. and Sonic Youth, played in punk bands, and threw his guitars around. "I played in a lot of noise bands. It was like every part of your body was your guitar pick. Slam it on the ground or just destroy it—it was like anti-guitar music with a guitar."

After high school, Walker moved to Chicago. He flirted with college, but it wasn't to be. "I figured going to shows at night instead of going to school was better for me." He was a student of Chicago's eclectic music scene and made it his business to attend performances of local legends like Jeff Parker (Tortoise, Chicago Underground). But the acoustic guitar was calling. "Along with a lot of roots music, I got huge into John Fahey, Sandy Bull, and stuff like that—super far-out acoustic guitarists."

Walker soaked in the sounds and practiced, and his discipline paid off: At age 26, he has superior chops, mature tone, impressive musicality, and advanced mastery of the instrument. He recorded *Primrose Green*—his second full-length album—in Chicago. It features a cast of local jazz heavies, including Ben Boye on keys, bassist Anton Hatwich, drummer Frank Rosaly, Whitney Johnson on viola, and cellist Fred Lonberg-Holm. Open, loose, and improvisatory, the album serves as a showcase for Walker's songwriting and playing.

It's also evidence of the current state of acoustic guitar, which, according to Walker, is in great shape. "It's pretty easy to meet a good guitarist these days," he says. "There is so much good guitar happening right now."



Photo by Matt Condon



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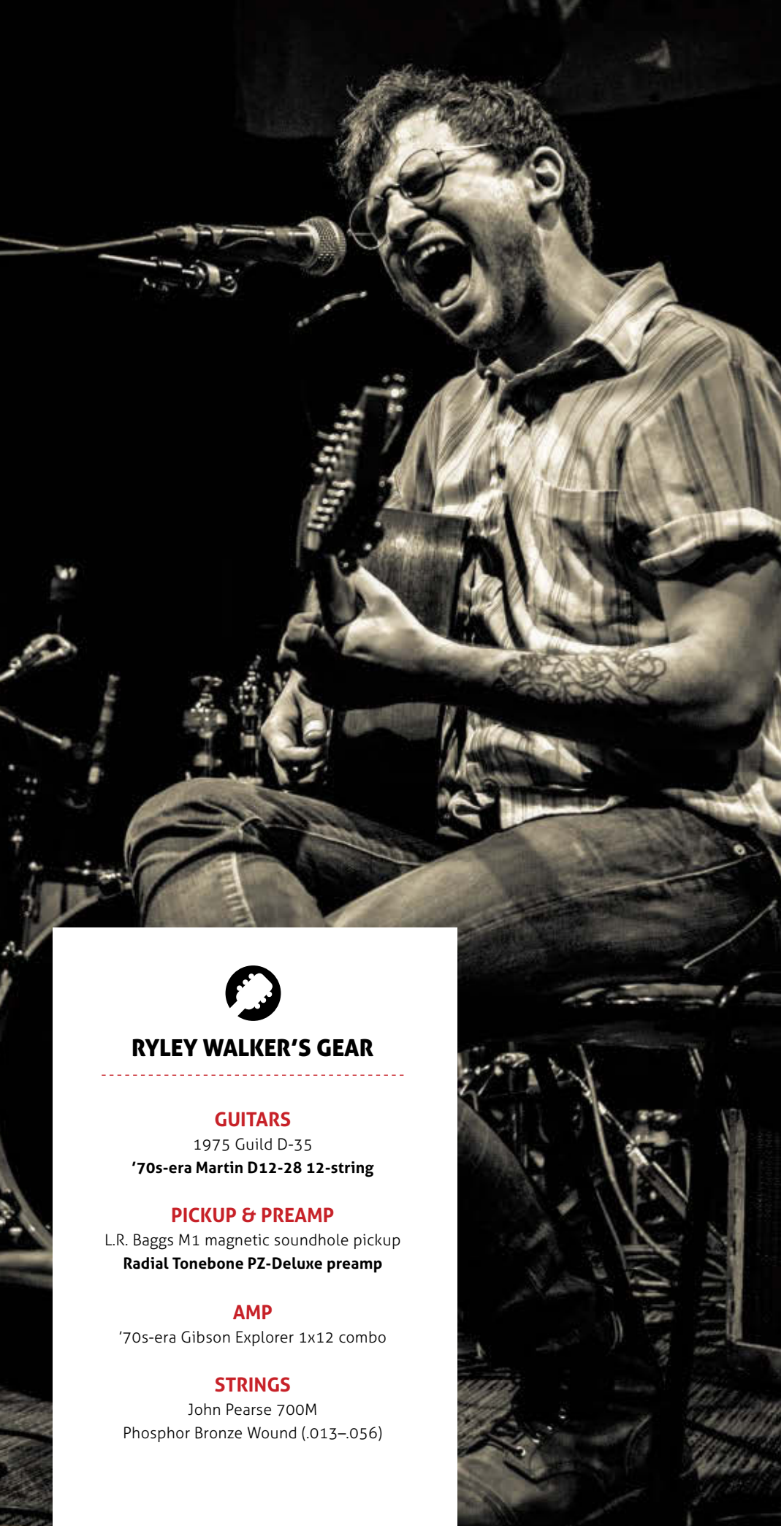
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Although it isn't a jazz album, *Primrose Green* has a lot of jazz overtones. It reminds me of those Joni Mitchell albums with Jaco Pastorius.
Those albums are great. Mine has jazz dudes on it—no doubt that influence is in there—but I don't think of it as a jazz record. It's a folk record.

Yet it's very open. How much leeway do you give your sidemen to jam or create parts?
Man, there's total freedom. They are some of the best musicians in the world, really great improvisers. They travel all over the planet doing what they do, and I'm not about to stop them from doing that. It's huge for me to have those guys playing with me.

Describe your composing process.
A lot of new songs come from messing around with tunings. I just sit around at home and try to find a new weird tuning, and then I improvise off that until it eventually becomes a song.

Do you have certain go-to tunings?
Not go-to tunings, but there are ones that are a little more prominent on the record. Tunings are like buried treasure, man. You look and look, and then you find one and you're just, "*Whoa. Sick.*" I call tunings the "baseball cards of fingerstyle guitar" because you trade your tunings. You're like, "Oh man, you gotta check out this tuning." And you meet a guy who says, "Check out *this* tuning I have." And you think, "What the fuck? Where did you get that tuning?" There are a few I use more frequently than others, I suppose.

Like what?
From the low end, "Primrose Green" is C–G–D–G–C–D. I love that tuning and use it on quite a few tunes. Its range is so sick and you can find a nice melody all over it. It's a really forgiving tuning.

What are some others?
I have a few tunes in D–A–D–D–A–D. John Martyn used that one a lot. I really like that—you just tune the G string all the way down to D. And there is this new

Photo by Jesse Barnett

tuning that Steve Gunn told me about where you tune the low E up to a G and everything else is like standard: G–A–D–G–B–E. That is really cool.

Are you as comfortable moving around in various tunings as you are in standard? Are you better at certain tunings?
Oh yeah, absolutely, like the ones I mentioned. You should put an infinity symbol above all the tunings. It's endless. You can find so many new things within them when you improvise live and try weird new sounds. And it's really rewarding when that happens.

Have you tried any of Nick Drake's tunings?
I've never copped a Nick Drake tuning specifically. I think he used E–A–D–F♯–B–E a lot, where you just tune the G down to an F♯, which I like a lot. He had crazy tunings. I love crazy tunings, but live they can be a pain in the ass. The audience is just sitting there while you're going, "hold on."

> *"You should put an infinity symbol above all the tunings. It's endless."*

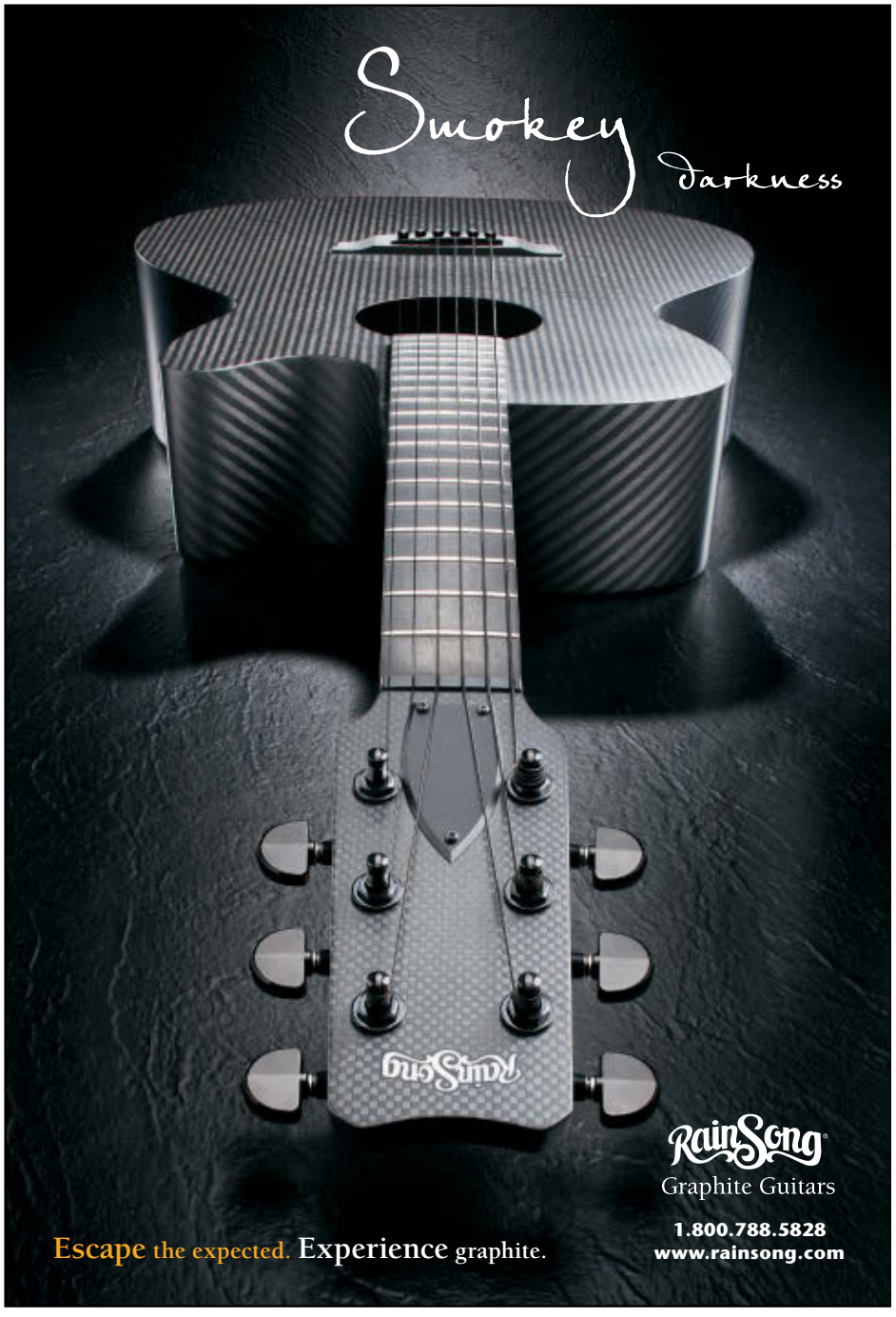
You use a capo with your altered tunings.
I play a lot in open tunings and sometimes the capo really helps me find a place with my voice. I'm a big fan of capoing between the 1st and 4th frets. There's just so much joy once you can raise an open tuning up a bit. A capo is the ultimate tool. I love it.

***Primrose Green* has a different feel from your previous album, *All Kinds of You*. Did you set out to do something different?**
A lot of it just comes from the band. They are jazz guys, so we had a lot of different energy in there. It was a new band and it was really refreshing. We recorded the album really quickly—we did it in a day and a lot of it was created right there on the spot. That whole vibe affects the record.

How do you approach playing music that's rooted in the sounds of an earlier era without being a revivalist or folklorist?
I'm always looking to do something of my own. I take a lot of inspiration from earlier music, but I don't want to be some sort of revivalist—that's a whole other racket. I like older records a lot, but I need to do *my* stuff.

Do you listen to world music?
Oh yeah. As far as guitarists go, Ali Farka Touré. All the West African guitarists are like mind, mind, *mind*-blowing, and you can get these compilations of street music from Asia and find all these weird

Opposite page: Walker digs into his Martin D12-28 at this year's NON-COMMvention at World Café Live in Philadelphia.



Walker's main flattop is a '70s Guild D-35. "That guitar rules—I'll keep it forever," he says.

melodies. Taking in music from all around the world is important to me.

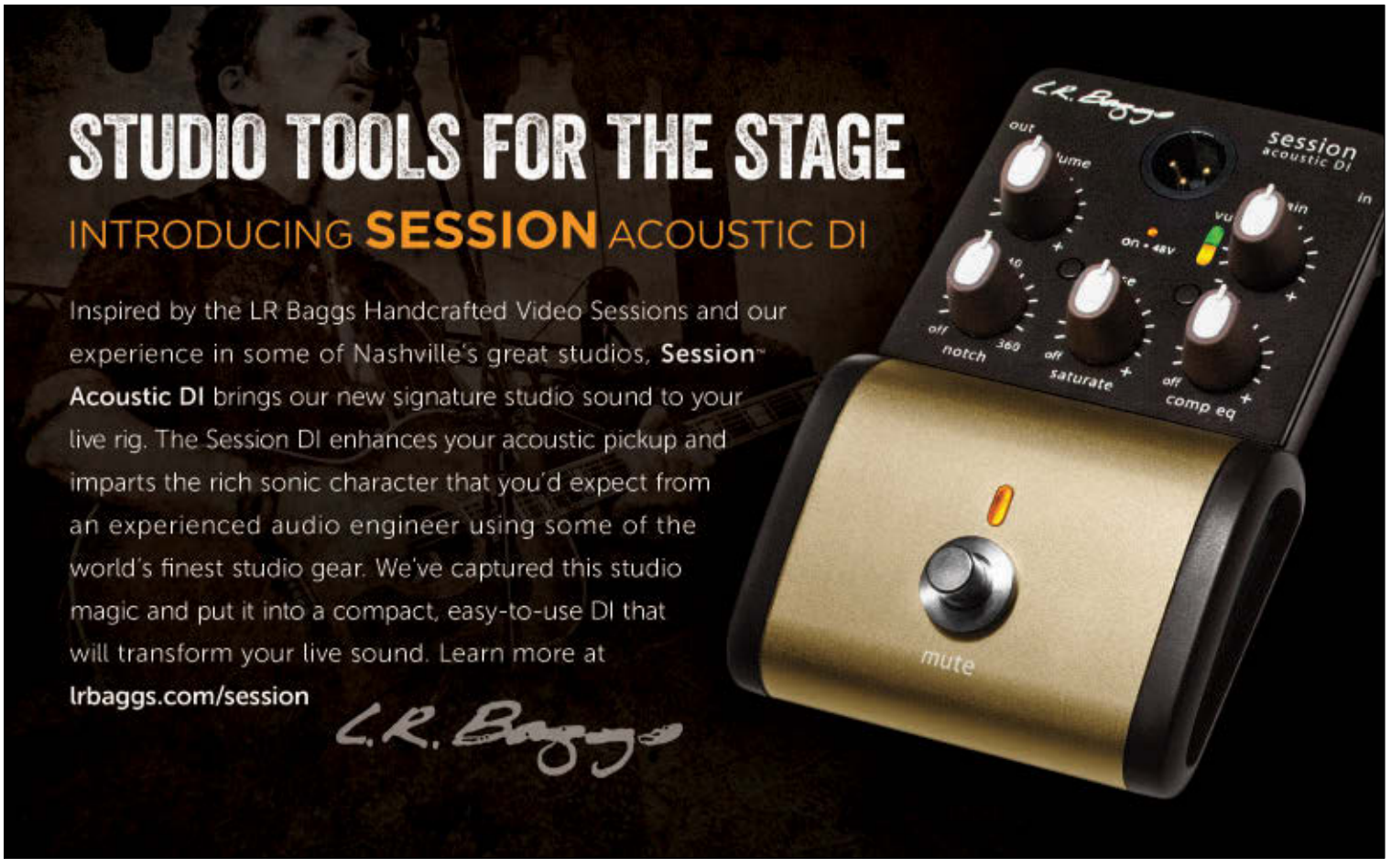
Tell us about your guitars.
I have a 1975 Guild D-35 and a Martin D12-28 12-string from the '70s. I don't know what year it was made.

Have you had them for a while?
The 12-string is pretty new, but I got the Guild about five years ago. That guitar rules—I'll keep it forever. I don't think there's a finer guitar. It's so durable, and it plays perfectly. You can drop it on the ground and nothing will happen to it. They built them so good.

How do you amplify your guitar onstage?
I used to just put a mic on it, but now that I'm with the band, it's starting to get more complicated. Now I have an L.R. Baggs [M1] passive soundhole



Photo by William van der Voort



pickup, and I plug that into an acoustic preamp, the Radial Tonebone PZ-Deluxe.

The L.R. Baggs pickup is pretty inexpensive, and because it's passive you can just keep it in there—you don't have to change batteries. It works perfectly and sounds just fine. I've never had a problem with it.

Onstage I play through an old Gibson Explorer amp. I used to *hate* amps on acoustic guitar, but since I've been playing with the band, I've discovered it's really cool—it gives me this beautiful bottom end.

The Radial preamp goes into the Explorer, which we mike. Then I also use the preamp's XLR out to feed the PA. We mix those two signals in the PA, and it's just an all-around balanced sound. It still sounds like an acoustic guitar, not like a shitty electric guitar. It took a lot of trial and error to find a good acoustic guitar sound, but I'm way into this one. Sending a DI acoustic guitar signal straight into the PA is just a godforsaken abomination of sound.

Have you tried an under-saddle piezo pickup?
No, I don't like disappearing acts for the pickups. I like seeing them because they look cool—kind of. I'm not a super-huge gear dude, so I'm not interested in having some weird, mad scientist guitar. You just screw this pickup in and out, no bullshit. And you don't have to install anything. It's just so easy.

Describe your Gibson Explorer.
It's a combo from the mid '70s. It has one 12" speaker, power on and off, tone, and volume—that's it. That's all I need. I have an EQ on the preamp if I need to tweak the sound more specifically.

Did you use the Explorer in the studio, too?
In the studio I had that rig I use live, but we also set up two microphones for the guitar as well. That allowed me to get every aching bit of guitar I could possibly want on the album.

Did you set up in a separate room?
No, we were all in the same room. It was all live.

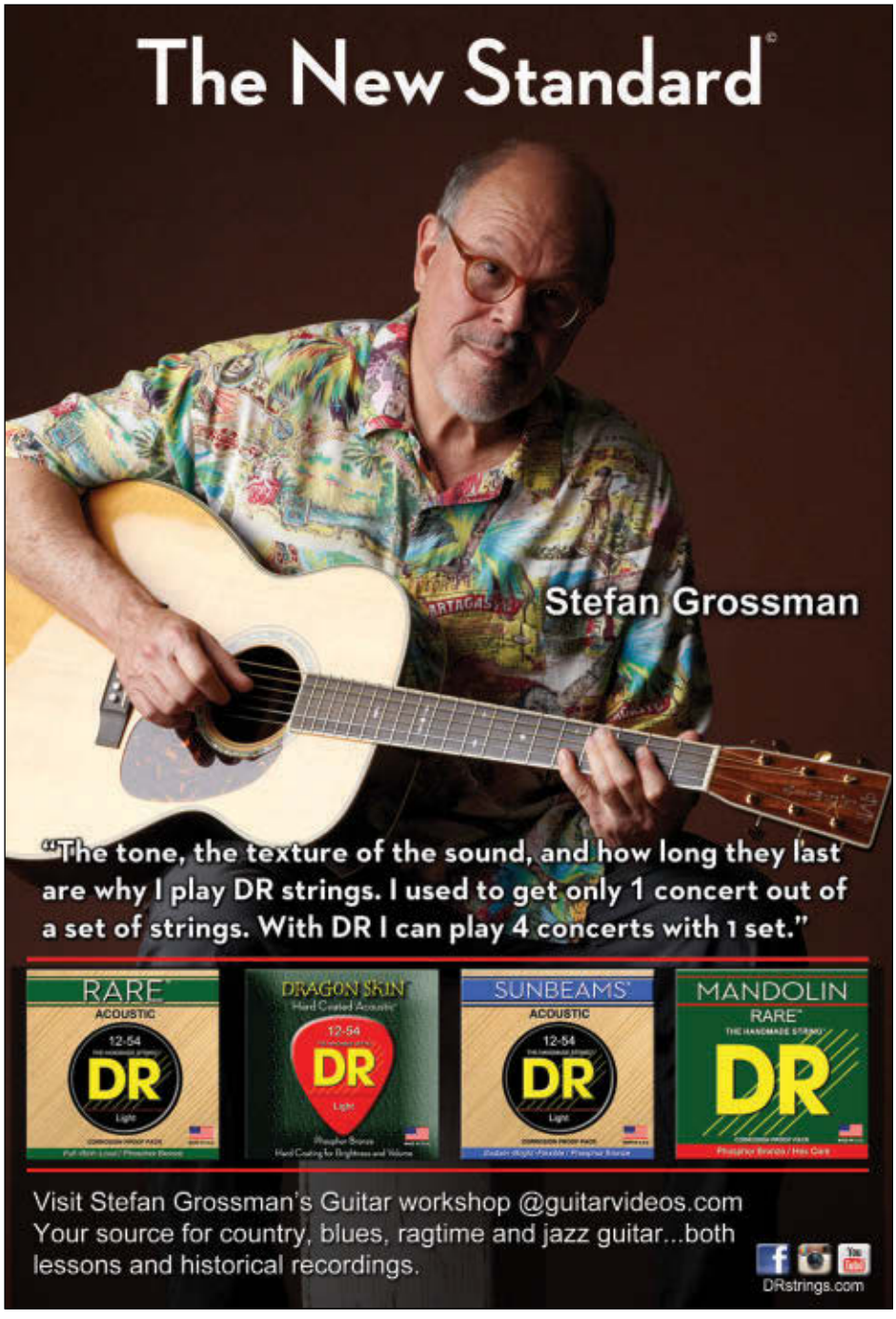
You weren't worried about leakage?
Man, there were no problems at all from my man Cooper [engineer Cooper Crain] who recorded this album. And I like leakage. We weren't trying to make something that sounds perfect. I wanted it to feel like a live record, so that's how we approached it.

Did you do any overdubbing?
Not really, just vocals.

What do you use for strings?
Medium-gauge John Pearse phosphor bronze. The conversation is over on acoustic guitar strings. John Pearse. Boom. Done. Now if someone wants to give me free strings ... [*laughs*]. But I use John Pearse.

Those mediums are gauged .013 to .056—that's pretty heavy.
Yeah man, but I love it. To me, light strings are like a little garden hose. But a medium set of John Pearse strings is like a *waterfall*. I swear by them.

What about picks?
I use a thumbpick, as well as acrylic nails on my pointer, middle, and ring fingers.



Why not just use fingerpicks?
I think fingerpicks sound like shit. I know a lot of people like them, but to my ears they make this weird scraping sound. The way I play, I like to get under the strings and pull on them to make them pop. You can't get that sound with fingerpicks—you cannot pull from under the string at all. I prefer acrylics because I like having the pick on top of my finger instead of the pick being under my finger pad.

Have you tried simply growing your nails?
I used to all the time, but when you're on tour and your nail chips, it's what-the-fuck? The acrylics are more permanent. They don't sound as good as nails, obviously, but they're a more permanent solution to chipping a nail. It's just better insurance when touring.

How do you maintain your acrylics?
I go to a nail salon. You could do it yourself, but for me, getting my nails done is like going to church on Sunday. It's just a good activity.



YOUTUBE IT

In this 29-minute set, Ryley Walker caresses, strums, plucks, and thrashes his Guild D-35, sings of love and loss, and converses candidly with the show's host about his musical heroes.
YouTube search term: Ryley Walker – Full Performance (Live on KEXP)





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CELESTION



MONSTER COMEBACK

After almost two decades, Failure's ***Ken Andrews*** *and* ***Greg Edwards*** *reunite for an album that picks up right where they left off.*

WRITTEN BY JORDAN WAGNER | PHOTOS BY PRICILLA SCOTT

The summer of 1996 should have been the breakout year that L.A.-based, space-rock band Failure had been waiting for. They'd just released their third album and magnum opus, entitled *Fantastic Planet*—an epic rock masterpiece featuring catchy songwriting with near OCD-levels of studio production. Written and produced by band architects Ken Andrews and Greg Edwards, the album's 17 tracks contained otherworldly atmospherics and textures, driving riffs, and violently heavy bass dirges. Unfortunately, the band's label was busy fighting financial collapse, and as a result, the record sold dismally. With mounting personal and professional issues, the band called it quits in late 1997.

Failure's demise 18 years ago is what makes their new album, *The Heart Is a Monster*, so compelling. Despite the breakup, Failure's fanbase continued to expand through word-of-mouth, by praises from their contemporaries (Tool's Maynard James Keenan among them), and from subsequent generations of musicians citing their music as a major influence. *Magnified* and especially *Fantastic Planet* began appearing more frequently within lists highlighting the greatest unsung albums of the grunge era.

Several years ago, the trio decided it was time for a proper reunion. They entered Andrews' Red Swan studio in Los Angeles to begin writing and recording the first Failure album in nearly two decades and one of the most anticipated releases of 2015. The result has the Failure hallmarks of catchy songwriting and exquisite production, and its brooding delivery makes it the darkest album the band has produced to date. We caught up with Andrews and Edwards to discuss what it was like to make music together again, the gear they used, and how their dreams and the work of David Lynch influenced the album.



Greg Edwards has moved away from using Wal basses and now prefers Fender Precisions with Seymour Duncan Quarter Pound pickups. He's shown here tinkering with the band's current favorite pedal: the Rainbow Machine by EarthQuaker Devices.

***The Heart Is a Monster* is a pretty ambitious album. The heavy layering, lush-sounding textures, and varying segues makes it sound like it's picking up where *Fantastic Planet* left off. Was this intentional?**

Ken Andrews: It wasn't in the plan initially, but it ended up being discussed about halfway through the album's writing process. One thing that we decided early on, however, was that we didn't want to do a reunion, go on a couple of nostalgia tours, and then call it a day. If we were actually going to put the band back together, we wanted to go all the way as a fully functioning band should, with new material and the whole nine yards.

Greg Edwards: Looking back at the time when we broke up, I'm glad that we didn't make the follow-up then. The atmosphere surrounding us at that time was pretty toxic with a lot of pressure coming from the industry side of things. I'm not sure what sort of follow-up record that would have created. At the time, I was feeling like anything we made could have tarnished the whole legacy of *Fantastic Planet*. We were really fortunate to have left right after making a record that was a real statement and also really resonated with people, and continues to do so.



YOUTUBE IT

Failure performs "Heliotropic" from the 1996 album *Fantastic Planet* while on the Tree of Stars tour last year.

YouTube search term: Failure HELIOTROPIC 5/30/14 Philly

Most of *The Heart Is a Monster* was written in the studio, which gives you a lot more freedom to shoot from the hip when inspiration hits.

Andrews: There may have been a few parts that Greg and I brought in and kicked around, but yes, most of it was written as we recorded it. We started off a couple of years ago at a pretty slow pace, especially compared to the final days, when we spent long hours every day in the studio.

Both of your lives have changed quite a bit since the band's breakup in 1997. Was it difficult to recapture a moment in time when you "clicked" musically?



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Ken Andrews is shown here playing the guitar used the most on *The Heart Is a Monster*—a 1994 Fender American Standard Telecaster with a Seymour Duncan Hot for Tele in the bridge.

Andrews: We've all kept playing or working on music since then, so our musical capabilities have grown. It allowed us to jump into some good ideas pretty quickly without mucking around. And since our sound basically relies on how effectively Greg and I bat ideas back and forth in the studio, the added experience made the process a lot easier than it had been in the past.

Edwards: Yeah, for sure. A big part of what made it easier was that Ken and I first got back together just as friends and new parents. Spending time with our young kids as they were running around and making fun of us was a nice built-in distraction away from the elephant in the room, which was Failure. It was certainly in the air, though. The feeling was that we'd eventually do something together again, maybe a soundtrack or something—but not necessarily Failure.

Since both of you trade off guitar and bass duties in the studio and live, Failure has never really had a "designated" guitarist and bassist. For the new album, did one of you play guitar or bass more than the other, or was it an even split?

Edwards: Ken actually played the majority of the bass on the record, and I played the majority of the guitar parts. I was thinking that after playing guitar in my band Autolux, I would pick up the bass in Failure. I ended up playing mostly guitar, just because that's how it worked out in the end. Live, I'll play whatever instrument makes it easier for Ken to sing and play.

The new album revolves around the concept of "inner space," rather than the outer space theme of *Fantastic Planet*. Can you elaborate on this in relation to the album's title, *The Heart Is a Monster*?

Edwards: It's really about the concept of inner psychological space. It's a counterpart to the theme of *Fantastic Planet*, which was a metaphor for someone dealing with being detached in outer space, and their worldly concerns and humanity being out of reach. *The Heart Is a Monster* is about the lack of identity and how flimsy the idea of identity itself really is.

Andrews: Part of where we got the idea was from a recurring experience I've been having for the past couple of years. It's sort of hard to describe, but there are some mornings when I'm waking up after a night of dreams that are so intense that they shake my sense of identity. The dreams are so vivid and disorienting that when I wake up, I don't really feel like myself. For a split second, my surroundings, my home, and even my name seem foreign, and I feel completely disconnected from my own life, as if I woke up as a different person. It really made me appreciate the concept of what personal identity is, and now the whole philosophy behind it is really fascinating to me. It's not like a nightmare in any way, but the realization of just how fragile it is can be very unsettling. Maybe it's just because I'm getting older, I don't know [*laughs*].

Edwards: It's pretty evident that everybody's dreams—if they remember them—are just ape-shit crazy [*laughs*]. That's what the song "Mulholland Drive" is about, which is a movie that really affected me. There's a real strangeness and inscrutability to the narrative that compels you to try to pull it apart and make sense of it. David Lynch really captured something essential about dream reality with that movie. So it was sort of my goal to make the kind of statements that keep you listening, but the narrative doesn't hold together in any way.

Songs like "A.M. Amnesia," "Counterfeit Sky," and "Come Crashing" favor drawn-out and intense buildups that sort of lumber towards the listener.

Andrews: That wasn't so much intentional as it was us trying not to repeat ourselves. We wanted it to sound like a Failure record, but at the same time we didn't want to fall into any old formulas. One thing guitarists will probably notice is that there are way less power chords being played than there were on *Fantastic Planet*. We tried to have the bass handle more of those responsibilities this time around, and allow the guitar the freedom to cover more textural and melodic parts instead of just playing along with what the bass is doing. We didn't completely abandon the heavy power-chord riffing that was part of past songs, such as "Sergeant Politeness," but we've definitely moved on from using it as often.

The one big thing we did to cultivate the same environment we had for *Fantastic Planet* was having all of us in a recording space for six months. Since our studio skills are more second nature this time around, we didn't get derailed by having to waste time trying to nail the tones that we wanted. It opened the creative floodgates and gave us more time to focus on the playing and songwriting.

"Since our studio skills are more second nature this time around, we didn't get derailed by having to waste time trying to nail the tones that we wanted. It opened the creative floodgates and gave us more time to focus on the playing and songwriting." **—Ken Andrews**



It also seems that would make it a lot easier to experiment with each part until you're happy with what each instrument is doing.

Andrews: It helped us flesh out songs from parts or riffs we liked, such as in "Otherwhere," a song towards the end of the album. Our drummer Kellii [Scott] and I were jamming one day when we came up with the bass and drum parts for it, minus guitar and vocals. It was a little haphazard, because we were thinking, "Okay, those are cool drum and bass parts … but where's the song?" We took another couple of days trying different guitar parts on top of it before we were happy enough to move onto adding vocals. Sometimes our songs will start by someone bringing in a melody or a chord arrangement that needs a small gap filled, like maybe a missing bridge part. But since we wrote this song in separate parts, it was less like filling in small gaps, and more like filling in blank spaces.

The album's bass tones are very punchy and often right in the front of the mix—a quality that helped define your band's signature sound. It's been said you guys carefully subtract frequencies from the recorded track to help the bass fit into the mix and have that really edgy, larger-than-life sound.

Edwards: Every song is asking for a different tone, and I really want my bass tones to have impact and richness. It takes a lot of work to get a bass sound that has the level of detail I like to hear without taking away from what other elements in the mix are doing. It's easier to scoop the bass frequencies, which is why, in a lot of mixes, it sounds ghostly. You can have a bass sound that's present and has a signature to it, but you have to arrange the guitars in a way where they're not going to have too much conflict with it. The whole game is to get just the right amount of "rub," when everything is slightly bleeding over into each other just right. Ken's a real expert at pulling this off in the studio.

Your live rigs have changed quite a bit since the late '90s. Ken, you used to rely on a Marshall JMP-1 preamp and VHT 2150 stereo power amp into a Marshall 4x12, while Greg was using an Ampeg SVT II head with a matching 2,000-watt 8x10 loaded with David Eden speakers. Now you've both become big proponents of Fractal Audio Axe-Fx II modeling units running to the monitors and house systems.

Edwards: Man, if you could have an army of tiny little men that were constantly keeping all of your cables in check, adjusting all of your pedals for every song change and flying your giant pedalboard around for you to every show, keeping all of your hardware would be wonderful [*laughs*]. I liked that stuff, but the Axe-Fx does its job more than well enough. There are so many amps and pedals in there, and you can dial in just about any sound that you'd ever need. And it's all in one box. For anyone that's had a huge rig, it's like going to heaven.

Andrews: The VHT was big, gnarly and very, very temperamental. It went down all of the time, and I was constantly putting new power tubes in it. It was a real pain in the ass. Sometimes I'd end up having to use two rented Marshall heads

KEN ANDREWS' GEAR

GUITARS

Custom-built Electrical Guitar Company single-cut aluminum guitar with EGC humbuckers (tuned low to high: C♯–G♯–C♯–F♯–A♯–D♯)

1967 Fender Jazzmaster (tuned low to high: C♯–G♯–C♯–F♯–A–D)

BASSES

2013 Fender Precision bass with a Seymour Duncan Quarter Pounder (tuned C♯–G♯–C♯–F♯)

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Late-'70s Sunn Model 15 PA speaker cabinet (used live in conjunction with the venue's PA)

Line 6 Relay G90 wireless system

EFFECTS

EarthQuaker Devices Rainbow Machine

Boss FV-500L Volume Pedal

STRINGS & PICKS

Ernie Ball strings

Dunlop picks

GREG EDWARDS' GEAR

GUITARS

1976 Gibson Les Paul Standard with Seymour Duncan Custom (bridge) and '59 (neck) humbuckers (tuned low to high: C♯–G♯–C♯–F♯–A♯–D♯)

1994 Fender American Standard Telecaster with a Seymour Duncan Hot for Tele in the bridge (tuned low to high: C♯–G♯–C♯–F♯–A–D)

BASSES

2007 Fender Precision bass with a Seymour Duncan Quarter Pound (tuned low to high: C♯–G♯–C♯–F♯)

AMPS & CONTROLLERS

Fractal Axe-Fx II preamp/effects processor with Fractal MFC-101 MIDI foot controller

Late-'70s Sunn Model 15 PA speaker cabinet (used live in conjunction with the venue's PA)

No wireless system, plugs in with a cable

EFFECTS

EarthQuaker Devices Rainbow Machine

STRINGS & PICKS

Ernie Ball strings

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because both sides of the VHT would fail. I still wanted to use my JMP-1, so I would connect its outputs to the effects return jacks on the back of the Marshalls. And that's if just the power amp would go down. When the switching system I had would fail, it was a freaking nightmare. If something broke in my rack from falling off of the back of a truck or something, I might have to spend all day trying to get everything to work again. Ugh. I don't miss that at all.

With the Axe-FX, we can take those sounds we've spent so much time working on, pack them in a 50-pound Pelican case, throw it on an airplane and play anywhere we want. We're completely over questioning if its generated tones are as good as the real thing. I'm actually of the mind that they're better. I mean, the parameters you can alter inside these boxes are so deep now, a lot of them you couldn't even touch within the physical world.

Edwards: Part of me feels a little sheepish about having all of this in just one box, but that's really more of a fetishistic thing because the only thing that matters is how they sound. I was pretty nerdy about amps and pedals, but I was able to let go of that pretty easily. It was a transition though, because part of the romance of making all those sounds out of that old gear is just gone. You don't get the tangible spontaneity of grabbing a bunch of pedals out of a closet, putting them in a random order and dialing them in to hear what happens. It's a lot like what happened in the studio world when Pro Tools and plug-ins came out, and everybody was complaining that they would never replace classic go-to equipment. But 15 years later, every recording engineer in the world has to admit that the versatility, sound quality, and creativity allowed by plug-ins is incredible.



How much time do you spend replicating the tones from your past albums for recent touring?

Andrews: We spent a lot of time programming those patches for playing our older material live. I'm talking weeks upon weeks of sitting there, listening to each song and practicing while trying to program a patch that gets as close to the original tones as possible. Sometimes we don't even remember how we got those sounds—maybe we layered several guitars, or blended an acoustic guitar in there. Getting them to sound 100 percent accurate wasn't totally realistic for us, so we did our best to work with them until they captured the vibe of the originals. What's cool about playing our new songs live is that we're able to use the patches we've already programmed while writing and recording the album.

I also enjoy not having the huge amount of stage volume of our old rigs, which we really had to crank to get the sounds we wanted. We liked how pushing the speakers to really get them moving resulted in our cabs having a cool saturation. Now, we can pump as much volume into the house system as we want, and we can hear the details in our tones so much better with our in-ear monitors. And since we can hear ourselves so much better, we can play with much more accuracy.

So was the entirety of *The Heart Is a Monster* recorded with your Axe-Fx units? You didn't use any external pedals or outboard effects at all?

Andrews: For the most part, yeah. We did, however, use a number of pedals from EarthQuaker Devices. They make plenty of pedals that don't exactly have a corollary within the Fractal world. We used the Rainbow Machine all over the record. When I plugged that thing in for the first time, I thought, "Holy shit man, this is *it*." For us, it felt like finding the holy grail, and it ended up being featured on at least three or four songs—and by featured, I mean put right out in the forefront with the main riff of those songs. It really works well with the kinds of riffs and lines we like to write, which usually sit between the middle and higher registers of the fretboard. It applies crazy dimension and depth to single-note





lines, almost like a doubled signal that's being modulated in a really strange way.

Edwards: It's actually the only pedal we have to take with us on tour. You can really hear it on "Atom City Queen" and "Hot Traveler."

Andrews: And sometimes when it's just idling and you're not playing at all, some amazing shit comes out of that pedal. I recorded those weird oscillations through a gain-y setting on the Fractal unit, and peppered them all over the record in spots with emptier spaces.

That's a clever trick.

Andrews: Oh, yeah. At one point, we set up a whole pedalboard with five or six EarthQuaker pedals, ran them all into a Fender Twin Reverb and sat in the control room for a whole day with a guitar getting a ton of feedback sound effects. We basically created a library of them, rather than trying to record them for specific songs. And it was super helpful to have that library to pull from when we needed a compelling transition from a part of one song to another. We used it like an artist's palette all over the record, and painted that noise in places where we thought it would fit.

Ken, did the '76 Gibson Les Paul Standard you used in the '90s make a return on *The Heart Is a Monster*?

Andrews: I didn't play that guitar at all on the album, but I believe Greg recorded a little bit with it. Over the last year or two of recording and touring, we've settled on about six instruments. Greg is using my '76 Les Paul Standard with a Seymour Duncan Custom in the bridge and a '59 in the neck, and I'm using a guitar that I really love, which is an aluminum single-cut built for me by Kevin Burkett at Electrical Guitar Company. It's all over the record, and it has a certain slicing quality that other guitars don't really have. It also has a ton of great sustain, and it stays in tune like nothing else I've ever had.



Ken Andrews plays one of the guitars that he and Failure bandmate Greg Edwards share: a 1976 Gibson Les Paul Standard with Seymour Duncan Custom (bridge) and '59 (neck) humbuckers.

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What features did you specify for your EGC model?

Andrews: The first prototype that I received was great, except that it was a little neck heavy. I sing a lot while I'm playing, so I needed the guitar to be as balanced as possible so I wouldn't have to hold the neck up. He made some alterations to the neck to give it the balance that I wanted, and it's great now. The neck has a thin profile that doesn't get thicker as it approaches the body, since it doesn't need the added mass for stability like a wooden neck does. The upper fret access is incredible—I absolutely love the way it plays and sounds.

We each have a guitar equipped with single-coils, too. I have a vintage 1967 Fender Jazzmaster, and Greg uses a 1994 Fender American Standard Telecaster with a Seymour Duncan Hot for Tele pickup that I installed in the bridge. That Tele and my Les Paul have been with us in this band longer than any other guitars, all the way back to when we recorded *Magnified*. The Tele has never really had that classic twang, and that disappointed me for a long time until I realized what a great guitar it actually is. It's very loud, plays easily, plays nicely with pedals, holds its tuning really well, and is very acoustically resonant. And we used it everywhere on *The Heart Is A Monster*, maybe more than any other guitar. The guitar tracks on "Hot Traveler" were recorded entirely with that Tele.

What basses are you using these days?

Andrews: We're using two Fender Precision Basses that I installed Seymour Duncan Quarter Pound pickups into, because we wanted them to sound as similar to one another as possible. One is a newer model with a sunburst finish, and the other is a black one that I picked up about eight years ago. I've been sold on them since. For a huge, blooming low end, there's nothing else quite like them. But you can also get some slice out of them with the right amp settings. We've moved away from using Wal basses, which we used all throughout *Fantastic Planet*.

You were among the first rock bassists to spread the word about them. Around that time, more bassists started using them—most notably your friend Justin Chancellor (Tool), who was in the studio recording *Ænima*.

Edwards: I bought one because Mick Karn played them in the band Japan. When I saw the crazy and unique way he played that instrument, I was completely in awe. So in a way, he's really the first person who brought attention to them.

Andrews: It's funny, because our friends who have Wal basses started contacting us to loan us theirs for recording when they found out we didn't have ours anymore. We used them here and there on a few verses, but we always went back to one of the P basses. The Wals work really well for aggressive riffs, but they don't have that huge low end that you can get from a P bass.

From cranked, slightly dirty amp tones to a furry Godzilla devouring a junkyard full of broken A/C units.



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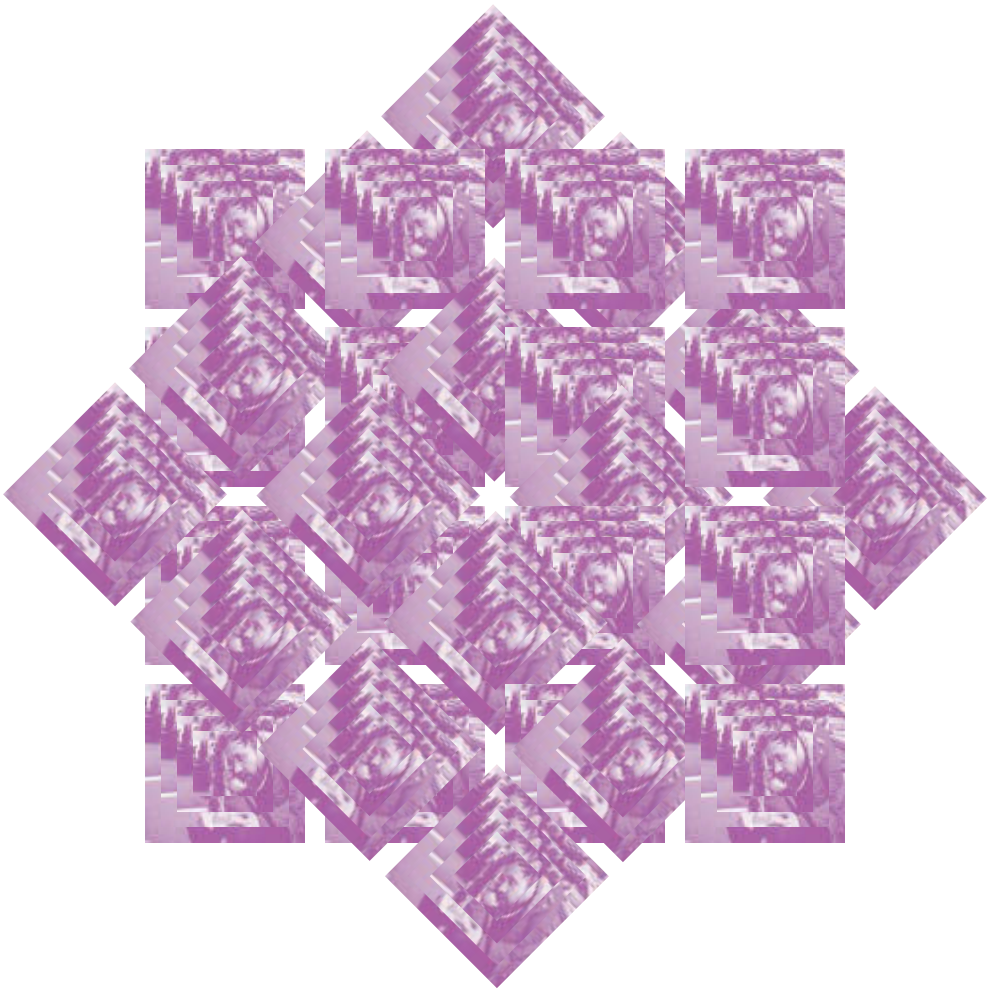
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*Unknown Mortal Orchestra's mastermind **Ruban Nielson** likes to take things apart, figure out how they work, and rebuild them to reflect his own musical voice.*

BY TZVI GLUCKIN

Unknown Mortal Orchestra guitarist Ruban Nielson likes to keep the kids guessing, so he includes a few mysterious handmade pedals on his board.

In 2010, ex-Mint Chicks guitarist Ruban Nielson posted new music online under the moniker Unknown Mortal Orchestra. He didn't know what to expect. After years fronting the somewhat-punk Mint Chicks, Nielson, a New Zealand native, relocated to Portland, Oregon, and worked nine-to-five. Music making was something he did at night after work as a hobby.

That changed fast.

Nielson's oozy, swirling, psychedelic-fuzz-meets-subtle-yet-infectious-grooves were well received by an alternative music world hungry for, well, alternatives. He assembled a band, signed a record deal, and hit the road. Five years and three records later, Nielson alternates between months of solitude—holed up in his basement tinkering, tweaking, recording, looping, and arranging—and playing sold-out shows across several continents.

Unknown Mortal Orchestra's music is built around Nielson's idiosyncratic yet formidable guitar playing. Armed with a Fender Jag-Stang, a Rogue Electric Sitar Guitar, and an ever-evolving collection of boutique and personally handmade effects, he conjures up diverse, otherworldly tones and employs an unorthodox fingerstyle approach. "The music I was playing was more arpeggiated and less about straightforward block chords," he says. "It just made sense to drop the pick altogether."

UMO tours as a quartet. In addition to Nielson on guitar and vocals, it features Jacob Portrait on bass, Riley Geare on drums, and Quincy McCrary on keys. But don't expect to see a strict recreation of the album in concert: Nielson considers the studio and stage to be different animals. "Once we understand what makes the songs tick, then we go pretty nuts," he offers. "Some songs we completely open up. I like the idea of not knowing exactly what we're going to play onstage."

Nielson spoke with *PG* on the phone from Minneapolis about UMO's new album, *Multi-Love*, some of his earliest influences, why he rebuilds his pedals, his high-end lo-fi recording methods, and other adventures in the kingdom of guitar.



Photo by Annie Atlasman

When did you start playing the guitar?
My dad was into drugs in my childhood and then he got sober. One of the steps [to sobriety] is to make amends to the people you love. One of the things he did was get me a guitar. I was in college already—in art school—and music turned into my hobby.

I read that your father is a musician. Did you have music around the house? Where did you learn about theory and harmony?
I still don't really know much about theory and harmony. I know enough to write my songs—that's about it. But my dad was a composition major and he explains to me what I'm doing in my own songs half the time [*laughs*].

That's interesting because your music is more complex than your typical rock song—you have more advanced chords and interesting chord motion going on.
I didn't start playing guitar until after I left high school, but my dad exposed me to a lot—like Miles Davis, Coltrane, and fusion. I grew up around Steely Dan and all that stuff. I feel that my ear was more developed than my ability to write music. I don't necessarily know what the voicings are called that I'm using a lot of the time,


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Ruban Nielson plays his Fender Jag-Stang with his band Unknown Mortal Orchestra at the Tivoli music venue in Utrecht, Netherlands, circa November 2013.

but I'm hearing them that way in my head. Sometimes it just takes me a while to figure out what it is that I'm hearing.

I hear a lot of '80s R&B in your songs—Fine Young Cannibals, Terence Trent D'Arby, Prince. Do you listen to any of that?
Yeah, sure. Terence Trent D'Arby is someone I listen to. Prince, of course—I'm pretty obsessed with Prince. Michael Jackson was a big influence on the last record—*Off the Wall* was pretty important. I was a little kid in the '80s and a lot of that stuff seeps into my subconscious. When I was a kid my dad put a big Chaka Khan poster on the wall, so I was growing up around that kind of music—Sheila E., the Time, DeBarge.

I also hear a huge Beatles influence on *Multi-Love*, especially your song "Stage or Screen."
I've gotten to a point with the Beatles where I've read every single book and listened to the albums so many times that I have to take a break from them for a little while. A lot of songs I write start off sounding like the Beatles and then I move them somewhere else. On this album, "Stage or Screen" is the most obvious Beatles-sounding song.

While recording *Multi-Love* I was more influenced by Bowie's sonic stuff from the '70s—that whole period between *Young Americans* and *Scary Monsters*—the [Tony] Visconti era. Sonically I was thinking along those lines, but I also wanted to use a little bit of digital outboard gear, like digital delays and pitch shifters.

Do you own any of that gear?
I wanted to get an Eventide Harmonizer I found on eBay, but I couldn't win it. So I found this Lexicon processor—it's not a digital

RUBAN NIELSON'S GEAR

GUITARS
Fender Jag-Stang
Rogue Electric Sitar Guitar

AMPS
Fender Hot Rod DeVille
Orange AD30 head

EFFECTS
(current pedalboard)
Analog Man Bi-CompROSSor
Electro-Harmonix Nano
Small Stone Phaser
Catalinbread Pareidolia
TC Electronic Ditto Looper
Electro-Harmonix Freeze
Soundblox Envelope Filter
Boss Chromatic Tuner
Catalinbread Belle Epoch
(EP3 Tape Echo Emulation)
Catalinbread Topanga Spring Reverb
Electro-Harmonix Memory Toy
Two Homemade Mystery Boxes

STRINGS
D'Addario NYXL (.010–.046)

"I like the idea that instead of buying your sound, you're building your sound."

Photo by Justin de Nooijer

delay, it's more like a multi-effects unit—and I use that a lot on the record. I like the sound of it and it was the next best thing I could get to an Eventide Harmonizer. It was cool to use something I'd never really heard of before that could get similar effects.

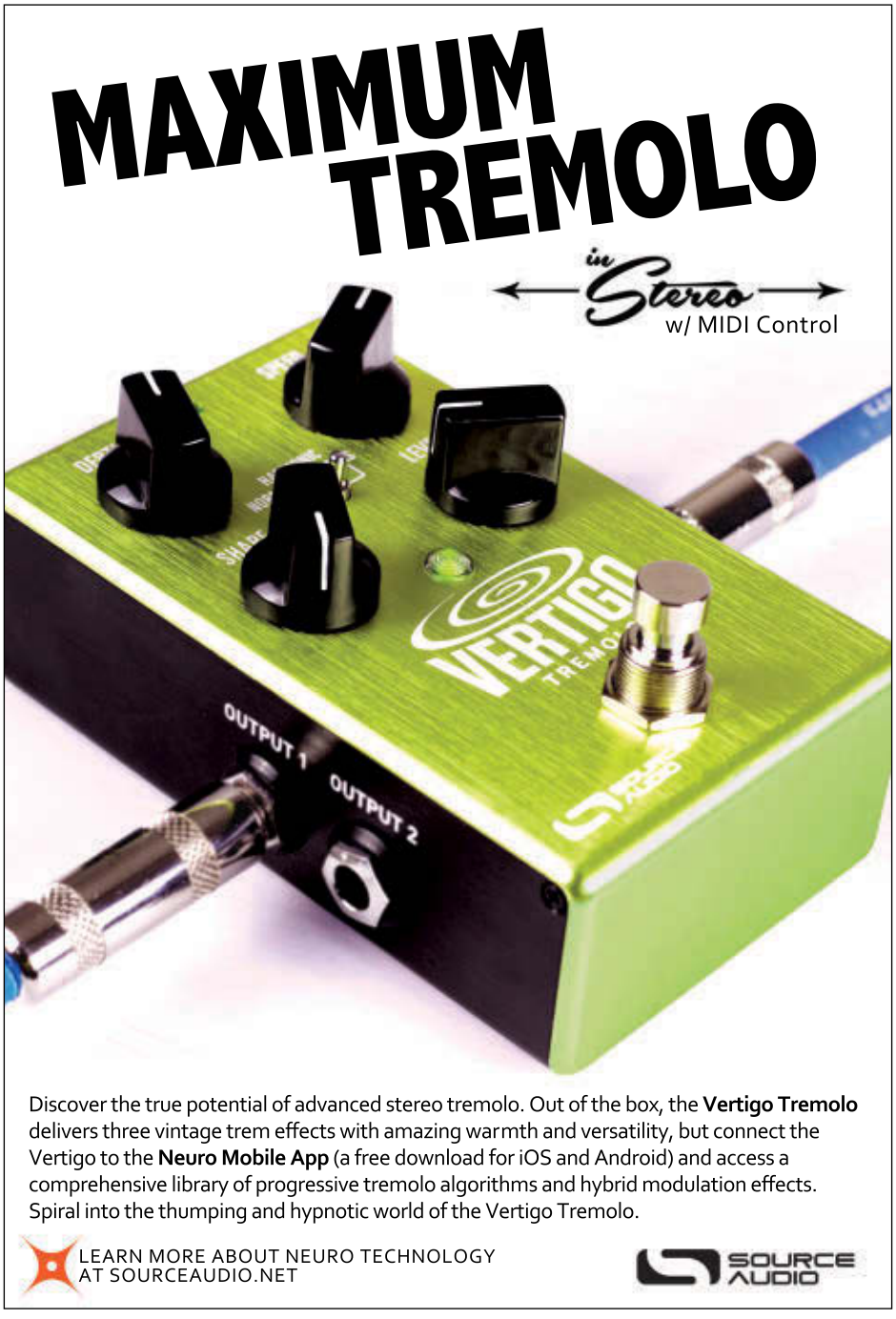
What's your approach to working with effects?
I'm usually reacting to something sonic. I got the [Catalinbread] Pareidolia a couple of years ago—it's kind of a Uni-Vibe effect—it just sounds so good. There are so many riffs and things that I play just by jamming around with it. I'm pursuing things all the time. If I find a pedal I like, I use it for a long time and then I try to build a clone to see if I can improve on it. I sit around in my basement tweaking it plugged in—on the breadboard—and changing out different components and adjusting the trim until I get everything just exactly how I want it.

How do you know what you're doing?
I just started tinkering. I started trying to fix my guitars so I wouldn't have to wait for a tech to get them back to me. I started to tear my guitars apart when something went wrong and I would give them to the tech after I messed them up. Eventually I just got to the point where things were working, my soldering was happening, and I could fix them myself. I went from that to pedals and some outboard gear, and now it's kind of my hobby.

You have a few no-name, unmarked pedals on your board. Did you build them?
Yeah. I had a Fulltone Octafuzz, which is a really amazing pedal, but I had this idea that I might be able to make my own that was a little more unique. So I built that. I built a Green Ringer and a Foxx Tone Machine—I mean more or less based on the circuit. I can put carbon comp resistors in and use my own combination of transistors until I find something that is exactly the same. I like the idea that instead of buying your sound, you're *building* your sound. A lot of kids take photos of my pedalboard, too, so it's cool to a have a few that are just blank metal boxes that the kids theorize about.

Do you follow any rules in terms of pedal placement?
I'm always moving things around. I've got an Analog Man Bi-CompROSSor that I've had at the beginning of the chain *and* at the end of the chain. At the moment I have it at the end. It's nice to have a compressor at the end of everything—especially with a phaser pedal, which has frequency spikes. It's nice to control them.

Are you using your amp or pedals for distortion?
I'm using my amp—I like amp drive. I usually push the front end pretty hard but the actual volume will be pretty mellow. Not super quiet, but on 3 or something like that. Onstage I'm pretty quiet. I have my amp shooting at me from the side—I don't put it behind me. I don't want my amp to be shooting down my microphone. I have a 500 series compression and distortion on my mic so I need to keep that as clean as possible. So I keep my amp on the side and Jake [Portrait], the bass



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player in my band, has his amp on the other side of the stage. Both amps are on the side pointing in, rather than pointing at the crowd from the back.

Are you using your amp as your onstage monitor?
Yes and that helps. I don't like hearing my guitar in my monitor because there's no telling what kind of crappy stuff they have. I only get my vocals through the monitor. Lately I've been trying to phase out my vocal in the monitor and have no monitors at all.

How do you hear yourself?
I have an earplug. I might move to in-ears, but right now I'm just using an earplug and have the monitors really, really quiet. I can hear my pitch better when I have an earplug in.

> "A problem with having options is that it gives you an excuse to not make stylistic choices. And that's what it is all about—deciding what you think is cool and then going with it forever."

How many amps do you have onstage?
Just one. I went through a phase where I modded my Fender DeVille so one of the speakers could be plugged in from another amp and the Deville ran only one of its speakers. I would have my Orange AD30 running the second speaker. That's my ideal setup, but it's a hassle to do that every night. At the moment I just take the Deville on tour.

What do you like about your main guitar, the Fender Jag-Stang?
It was just this funny guitar my friend gave me. When I started on the UMO stuff I pulled it out. It would never stay in tune and sounded really strange, but when I plugged it into a Blues Junior, I started to come up with completely different ideas. I tuned it a half-step down and started playing with my fingers. It was just a whole new style that emerged in the space of about two weeks after messing with this guitar. The neck is really perfect. When I tuned a half-step down—which I just did because Jimi Hendrix did it and I thought if I was going to start writing some new music this was my chance to start messing with that—that loosened the strings up. The neck was a smaller scale so it gave me the ability to do completely different things. I was able to get around the neck a lot easier—more comfortably than I ever had with a Telecaster. I've tried to upgrade my guitar and I always come back to the Jag-Stang. It has a lot of personality.

Does it have a Mustang-style whammy on it?
It does, but I never really use it. I have it there because I used to do wobbly stuff. But one of my favorite guitarists is Bill Frisell, and I've always really loved the way that he would mess with the neck and bend it out of tune. I do that a lot. A big part of my chord playing is that wonky sound I lifted from him.

It looks like you replaced the humbucker with a single-coil in the bridge position.
The Jag-Stang was a little too noisy for me, so I put Lace Sensor Golds in the bridge and neck positions because they're good at noise canceling. And they sound really awesome.

How do you go about getting good vocal sounds and recording drums?
I just experiment with it. I didn't go to engineering school—all I have to go on is making records. I try to keep it simple. I usually use two mics. In fact, all drums on all my records never have more than

Ruban's Lunchbox

Ruban Nielson travels with a 500 series rack—or "lunchbox" in studio parlance—full of goodies. It's a compact, rugged box with a handle that's stocked with preamps, compressors, and other devices to enhance or color your sound. API (Automated Processes Incorporated) built the original lunchboxes in the late '70s to house their 500 series modules. (API owns the name "Lunchbox.") Over the years the format was standardized. Today, many companies make modules that conform to 500 series specs.

Nielson's lunchbox houses a number of preamps (an essential tool that boosts a relatively weak microphone signal), including a high-end Neve preamp and an Avedis MA5. He has signal-processing units like a BAC-500 compressor and a Radial Tank Driver Spring Reverb Interface. "I have a real spring reverb rackmounted underneath the 500 series rack," he says. He also uses a number of DIY RE Colour Series modules. "It comes as a kit and you put different cards in it. I have a slight delay card, a tube saturation card, and Cinemag Output Transformer—three different kinds of color that sound cool to me."

The 500 series is a popular format for capturing great tones. On the road, Nielson uses his 500 series modules primarily for vocals. "When I'm off the mic a little, it's really clean," he says. "It breaks up and gets crazy when I get really close. When I cup the mic it sounds lo-fi and cool. I can control a lot of what's going on just with my mic technique. I can sing clean or distorted and it's really fun."



YOUTUBE IT

Dig the righteous solo starting at3:16 and how Nielson uses his index finger as a pick. Listen for the insane tones on the song's fade out, too.

YouTube search term: Unknown Mortal Orchestra – From the Sun Live

two mics. I use one mic as the main sound—usually placed somewhere in the middle between the kick drum and the snare—and then use the second mic to get definition in the kick drum.

I discovered you can get much better drum sounds with less microphones. There are so many phase issues. Phase is such an important part of recording and if you have six microphones or more, it can be a phase nightmare. You have too many things. I find that with guitar, too. Sometimes I try to record the guitar with stereo mics, but I don't think it's worth it. Just throw a mic up and make sure the part is cool. That's more fun for me.

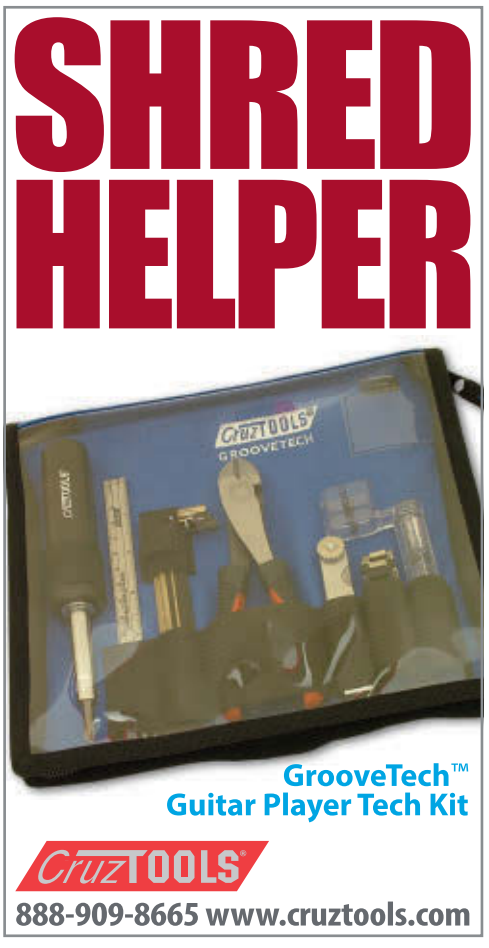
So you just record it and then tweak it later?
Yeah. I'll send it out to different outboard gear, like reamping. I have some compressors now that I use and I run things through pedals. I have no problem running a drum track through a Mu-Tron Phasor or whatever. I'll put it through anything—a cheap piece of gear or something nice that I have. I try things out and I keep working on the sound until it's awesome to me.

Do you keep a log in case you want to go back to something you had?
I try to keep to the philosophy that I have to move forward. I do keep insurance—I have all my files saved as I go. But I never find that I go back to things. It forces you to make the decision about what is cool. I think it is really important to make those decisions. You have to decide whether that guitar sound is cool and if you're going to keep it forever or not. A problem with having options is that it gives you an excuse to not make stylistic choices. And that's what it is all about—deciding what you think is cool and then going with it forever. All the great records were made like that.

Did you develop your aesthetic sense through listening or by trial and error?
I was in a band with my brother earlier and we made our own recordings, so I learned a lot. But we were really opinionated music fans before we ever started making records. I had really strong ideas about what I thought was cool and what I thought was lame before I ever started thinking I could make records myself. I think that really helped—having conversations about that stuff already. Then it was just a case of, "Oh, I want to get that clapping sound like *On the Corner*." Then it's years of trying to figure out what it is that makes that sound so fat and so good. We started on Pro Tools, and I remember trying to record hand claps was such a big thing. You put a microphone up and record it, and you're like, "Why doesn't it sound like a real hand clap?" You don't realize until later that you need a real fat preamp to get that sound. "What's a preamp?" "Why does something sound a certain way?" "Oh, it's because they recorded it to tape." It's that process of learning and thinking that is so much fun.







Guitar Finishes and Care 101

BY MARK DALTON



Huss & Dalton finish technician Bryan Bridges applies a catalyzed urethane finish to a soon-to-be completed dreadnought.

As I write this, I'm on my third day of filling in for our vacationing finish man. Fill-in duty would normally fall to his supervisor, but he's out sick, so here I am. Welcome to the world of small-business ownership! I actually started out in this business as a finish person at Stelling Banjo Works here in Virginia, so I have some experience in this part of the process. I also stay involved in an advisory capacity. But as we all know, advising and doing are two very different things.

Two things struck me today: First, these guys work very hard for us. And second, even though the materials have changed a little over the years, the basic process seems to be the same. The finish room is often the bottleneck in a shop like ours. This is due in large part to the intense manual-labor aspect of the work and the fickle nature of wood as a medium.

The great debate. I'll do my best to explain a few differences between the two major types of guitar finishes while trying to avoid "the great debate" (whether nitrocellulose lacquer or catalyzed finishes are superior). In my opinion, there is no discernable difference in tone or volume between any of the available finishes. Other folks whose opinions I very much respect have different views here, but I can only speak of my experience. (Several other finishes are currently in use, including varnish and even shellac, but in the interest of space, I'll stick to the two most common ones.)

Catalyzed finishes. The catalyzed finishes used by pros, such as the catalyzed urethane we use, are relatively impervious to the elements, with low freezing points. They're also resistant to solvents your guitar may encounter, such as bug spray and suntan lotion. Catalyzed finishes also provide greater resistance to dents and scratches, and they're environmentally friendly, with fewer volatile organic compounds and less general shrinkage.

On the other hand, catalyzed finishes are expensive. They're harder to apply, and more difficult to touch up as needed.

Lacquer finishes. Most of the old guitars we all revere were finished with lacquer—and "respect for tradition" merits a check in the pro column. Lacquer is also relatively easy to use. (If you can handle a spray can from the hardware store, you can probably work with this stuff.) And compared to catalyzed finishes, lacquer is easy to sand and touch up.

Lacquer's biggest negative is its high freezing point. If your lacquer-finished guitar is exposed to temperatures below 32 degrees for any length of time, the top's finish is liable to crack or "craze" once the guitar is returned to a heated space. Some think this gives the guitar a cool played-in look, but it makes others want to jump off a building. Lacquer also has low resistance to solvents and sweat. We've all seen old guitars with dirty, sticky rings where the player's arm has pressed against the top.

Care. For the most part, the two finishes require the same sort of care. You can usually clean them with a soft, damp cloth, followed by a softer dry one. It's okay to use polish sometimes, but avoid ones that contain silicone, which tends to build up over time. (Most commercial guitar polishes have no silicone, but it's worth checking.)

You can use naphtha on most finishes to remove stubborn dirt or other substances. (At least that's true for urethanes and lacquers. If you have a different type of finish, or simply aren't sure, it's always a good idea to get the blessing of your builder.) Naphtha, a mild cleaning solvent, is available in most hardware stores. But do not—I repeat *do not*—confuse naphtha and acetone! The two might reside next to each other on the hardware store shelf, but acetone melts most finishes.

One last note: The notion that you can polish a matte-finished guitar to a shine like a buffed-finished guitar is a misconception. Do yourself a favor and don't try it unless you *really* like to sand. Odds are you'll end up working harder than you ever have for a mediocre result.

Until next time: Wax on, wax off, Miyagi.



MARK DALTON *is a founding partner of Huss & Dalton Guitar Company. When not building guitars, Mark and his wife, Kimberly, tend to the draft horses and mules that inhabit their farm in the Piedmont region of Virginia.*



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Speakers? We Don't Need No Stinking Speakers!

BY JOE GORE

You know your analog amps. You've grappled with digital models. But let's investigate an approach that isn't strictly analog or digital, but a marriage of the two technologies.

Amps and models sittin' in a tree. Most amp modelers mimic both the core amp sound (through varying combinations of distortion, compression, and EQ) and the character of the speaker, cabinet, and mic (via an EQ setting based on the modeled components, or, more often, an impulse response recorded through the modeled speaker and cabinet). While we can argue endlessly about the accuracy of amplifier models, it's hard to deny that good speaker/cab impulse responses are shockingly realistic. So let's see what happens when we combine a line-out signal from an analog amp with modeled speakers, cabs, and mics.

How to destroy an expensive amp. Easy! Just disconnect your speaker and try recording from the speaker-out jack. If you're blessed with luck and a good nose, the aroma of frying electronics will prompt you to abort before you do permanent damage. If not, better switch your wallet off standby.

Analog amps must always be connected to a speaker—or to a component that dupes the amp into thinking it's connected to one. Load boxes and speaker attenuators do this very trick. These devices usually have both speaker-out and line-out jacks. You use the former to connect back to your speaker/cab, often at an attenuated level to achieve loud-amp tones at listenable volume. Meanwhile, the line-out conveys your amp's pre-speaker sound at a level suitable for recording inputs. (If your amp has a dedicated line out, great—no load box needed, provided you're still connected to a speaker. But most vintage and vintage-style amps don't.)

Load-box terminology can be confusing, but a recent Tone Tips column by *PG*'s Peter Thorn (The Lowdown on Load Boxes, Attenuators, and Reamps, May 2015) deftly decodes the lingo.





For our purposes, you need a box with a line-out jack and no built-in speaker emulation (or emulation you can switch off). We'll mimic the speaker in software.

So dry, you'll cry. For these recordings I used a Swart Night Light attenuator/load box (**Photo 1**). (It's a nice device at a good price, but it has many rivals with near-identical functionality.) I plugged into a homemade germanium overdrive and a small Divided by 13 CJ11 combo, running the direct signal into Logic Pro, my DAW of first resort.

The result (**Ex. 1**) sounds dreadful. All that death-ray treble and nose-punching presence? They're precisely the frequencies that guitar speakers typically filter out. (Check out the online version of this story, which has embedded audio.)

Next, I inserted Amp Designer, Logic's amp-modeling plug-in. Amp Designer doesn't let you use speaker models without an amp model, so I dialed up the transparent preamp setting, a neutral sound devoid of guitar-amp coloration. I added speaker emulation, and suddenly this sounded an awful lot like a miked amp (**Ex. 2**). I chose a model derived from an ancient Fender 10" speaker (**Photo 2**) and added a touch of humble home-studio reverb.



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Compare that to **Ex. 3**, the same recording through a modeled mid-'60s Marshall 4x12 (**Photo 3**), this time with expensive-sounding plate reverb. Can you see how this method might provide vast sonic variation without relinquishing your core amp color?

For **Ex. 4**, I switched to Native Instruments' Guitar Rig amp modeler. Here there's no need to dial up a neutral-sounding amp stage—the program lets you apply speaker simulation with no amp stage. There's another new wrinkle: I duplicated the performance on a second track, and then ran each track through a separate speaker model (**Photo 4**), with the sounds panned slightly in stereo. Using this method, there's no limit to the number of virtual speakers you can add—but don't be surprised if you quickly hit the point of diminishing returns.

Let's put another twist on it, borrowing an idea from last month's column (How to Prepare a Delicious Amp Sandwich, July 2014). **Ex. 5** is identical to Ex. 4, only here I've applied the "amp sandwich" approach, filtering all the lows from one track and all the highs from the other, as seen in the EQ curves in **Photo 5**. The result is airier and less low-mid constipated, and even though I haven't changed the panning, the stereo spread seems more dramatic. Which version is better? It depends on the context, silly.

School's out. This hybrid approach isn't old school or new school—it's more like a one-room schoolhouse where everything happens at once. This technique lets you capture the color of a favorite analog amp *and* warp it to taste after it's been recorded. (Very handy come mix time!) There's much room for sonic nudging, be it a few degrees to the left, or right over the cliff. And of course, you can record silently day or night, monitoring on headphones.

Parting food for thought: Here we've captured authentic analog amp tones without analog speakers. But we can also get there without physical or modeled amps. Consider the trem-sodden tones of **Ex. 6**.

It's simply a matter of … *ouch*! I just fell off the bottom of the frickin' page. I'll save the dirty details for an upcoming column. Until then, remember: It depends on the context!



JOE GORE *has recorded and performed with Tom Waits, PJ Harvey, Tracy Chapman, Courtney Love, Marianne Faithfull, Les Claypool, Flea, DJ Shadow, John Cale, and many other artists. Joe has written thousands of articles about music and helps develop music tools for Apple and other clients. He blogs at tonefiend.com.*

UN-WIND

JOEL STROETZEL

Guitarist for
Killswitch Engage

"During the first show I played using the Fishman Fluence pickups I noticed a real difference going between distorted and clean sounds. With the push/pull, Multi-Voice knob, you easily get your loud, clear, rock, metal tone for the active sounds. And the passive sounds are killer for clean tone – nice and shimmery."



Joel's pickups – Fluence Modern Humbuckers

FISHMAN FLUENCE

The electric guitar pickup has been wound since 1934. 80 years later, we've unwound it. **fishman.com/fluence**

Five Ways to Rock a Dremel

STORY AND PHOTOS BY JOHN LEVAN

If you're into maintaining, repairing, or modding guitars, odds are you already have a decent collection of tools. In addition to various screwdrivers and nut drivers, your toolkit will likely contain specialized files, precision rulers, truss rod wrenches, a power drill, and a soldering kit—the usual suspects.

But you know you're hardcore when you have a Dremel rotary tool. (Okay, a rolling metal tool chest qualifies as hardcore, too.) An invaluable piece of equipment for any shop, a Dremel lets you accomplish many tasks, including engraving, routing, grinding, and polishing.

Dremel makes several different models of rotary tools. Mine is the variable-speed Moto-Tool 395 (**Photo 1**). With a top speed of 30,000 rpm, it's a little workhorse with five different speed settings to handle any project. (Dremel has updated this model with the 3000 series.)

Let's look at five ways to use a Dremel on a guitar. If you have a rotary tool, these projects may inspire you to haul it out and get busy. If you don't, perhaps you'll consider acquiring one. Most home improvement stores sell Dremels, and they're often bundled in a kit with attachments—pads, wheels, and bits—that cover a multitude of guitar-oriented tasks. In addition, there are specialized attachments that are only available through such luthier suppliers as Stewart-McDonald or Luthiers Mercantile.

If you're working on guitars, the Flex-Shaft (**Photo 2**) is a crucial Dremel accessory. It allows you to maneuver into positions that are difficult or impossible to reach with just the Dremel itself.

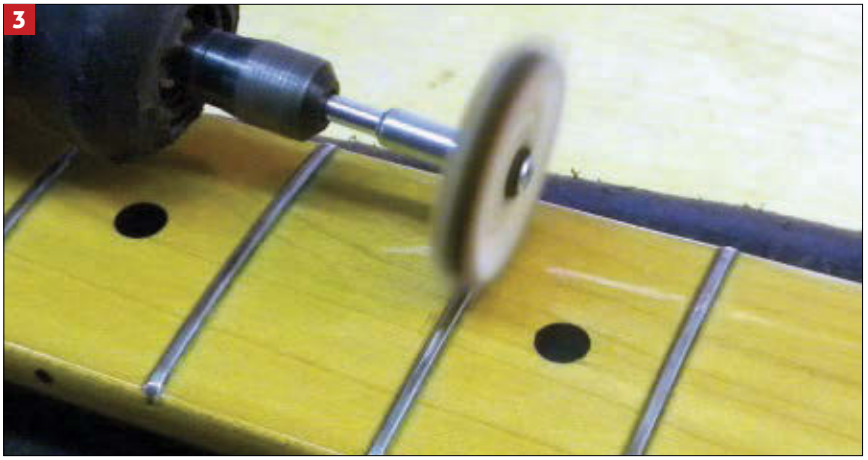
Okay, here are the five projects we'll cover; they each require different attachments**.**

- Polishing frets on a maple fretboard.
- Removing burrs from tuning keys.
- Shortening height adjustments screws in Fender-style bridge saddles.
- Cutting string slots in an acoustic bridge.
- Grinding off sharp edges on an acoustic bridge saddle.



1


2


3

Got a problem with breaking strings? Burrs or sharp edges around the hole in a tuner post can be the culprit.

Tip: Before you fire up a Dremel—or any other power tool—always don safety glasses!

Polishing frets on a maple fretboard. You never want to use sandpaper or emery cloth—even if it's ultra fine—to clean and polish the frets by hand on a maple fretboard with a glossy finish. It's too easy to scratch or damage the surrounding finish.

But a small buffing wheel mounted on a Dremel tool is ideal for the job (**Photo 3**). Just put a few drops of buffing compound on the wheel (I use Planet Waves Restore), and set the tool to a medium speed.

Gently glide the buffing wheel along the length of the fret. Don't use a lot of pressure when buffing. If you force the wheel onto the fret, it can slip off and possibly burn the finish on the fretboard. A slow, steady, light touch will do it right.

After you've buffed all the frets, wipe down the fretboard with a clean polishing cloth.

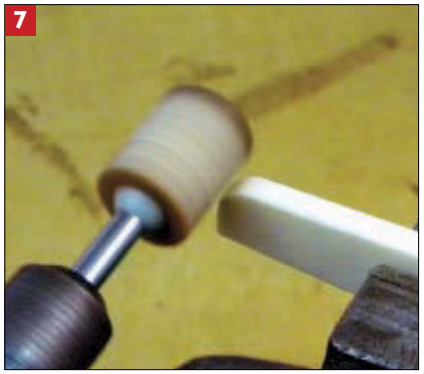
Removing burrs from tuners. Got a problem with breaking strings? Burrs or sharp edges around the hole in a tuner post can be the culprit. It's a good idea to inspect these posts, and if you see any burrs in their holes, you can polish them out with a very small, thick buffing pad mounted on your Dremel (**Photo 4**).

You'll want some buffing compound on the pad. I use Meguiar's Mirror Glaze 85—it's gentle enough to prevent damage to the post, but aggressive enough to clean off the burrs. Be careful to keep the pad off the









headstock when you're running the Dremel. If you want to protect the headstock, lay down a strip of painter tape on the area below the post hole.

Set the Dremel to high speed and apply moderate pressure against the outer edges of the hole in the tuning key post. If the burrs are really bad, first smooth them out with 400-grit sandpaper, then polish out the edges with the Dremel's buffing pad.

Shortening saddle screws. Sometimes a few saddle height adjustment screws on a Fender-style bridge protrude above the saddle and catch your clothing or picking hand. Ouch! When a saddle screw is longer than necessary, you can't cut it off at the top because that's where the hex adjustment is located. The solution is to remove the saddle and shorten the offending screws by grinding down their bottom ends. Once the screws are recessed in the saddle, your hand can rest on a smooth surface, yet you'll still be able to adjust the action.

First measure how much of the screw is poking up past the saddle. This will indicate how much you need to remove from the bottom of the screw. I use a red Sharpie to mark how much material I need to grind away. Make sure you measure several times before you cut! Next remove the saddle and place it in a vise with the screw bottoms facing out.

Tip: To avoid damaging the saddle or any other delicate guitar parts, glue thin leather strips onto the vise jaws.

Mount a grinding wheel attachment onto your Dremel, and press it against the screws to grind away the excess metal (**Photo 5**). Use slow, even pressure and remember to wear eye protection.

Acoustic bridge string slots. The bridges on most flattops don't have their string slots cut at the correct angle. As a result, the strings make a sharp bend between the pin hole and the saddle, and this can create tuning issues and string breakage. Cutting or resizing string slots in the bridge will reduce these problems. The objective is to create a small, angled channel so the string follows a gentle curve from the pin hole up to the bridge saddle.

Start by fitting your Dremel with a Flex-Shaft attachment and a 1/16" cutting bit. Then remove the strings and bridge saddle. Next, carefully cut angled slots at the saddle-side edge of the pin hole by rolling the bit in the hole (**Photo 6**). It only takes one or two "swipes" to get it right. Avoid cutting the slots too deep—this can cause future problems with the bridge. Use a moderate speed while applying steady, gentle pressure.

Smoothing sharp edges on an acoustic saddle. It can be distracting or even painful if your picking hand hits the sharp edge of the bridge saddle on a flattop. Here's an easy fix.

Note: Before you go any further, determine the saddle material. A Dremel spins from 5,000 to 30,000 rpm, and while that's fine for bone, it can produce more than enough friction to melt synthetic materials. If you have a plastic, Micarta, or Tusq saddle, I recommend sanding or filing it by hand. However, if you're just itching to do this with your Dremel, use the lowest speed to prevent a meltdown.

Remove the strings, pull out the saddle, and place it in a vice. Next, attach a small grinding stone to your Dremel. Set it to a medium speed and use the small stone to gently grind the edge to a rounded shape (**Photo 7**). Take your time and be patient.

Do not attempt this with the saddle still in the guitar's bridge. The tool is spinning at about 15,000 rpm, and if you slip, you can permanently damage the bridge or soundboard.

Once you've done several of these projects, you're likely to find other ways to put a Dremel tool to work on your instruments. Keep it handy and be creative!



JOHN LEVAN *has written five guitar repair books, all published by Mel Bay. His bestseller,* Guitar Care, Setup & Maintenance, *is a detailed guide with a forward by Bob Taylor. LeVan welcomes questions about his PG column or books. Drop an email to guitarservices@aol.com.*



Illustration by Laura Kottke

BET.

It's Watt's for Dinner

When you're buying a bass amp, nothing's more confusing—nor more critical to laying down thick, juicy low end—than making real-world sense of power classes and wattage specs. Here, Ashdown Engineering's Mark Gooday demystifies the lingo and gross math to help you find the right amp for your needs.

BY MARK GOODAY

There are two main types of bass amplifiers on the market today: tube (or "valve" for us Britons) and so-called "solid-state" designs. But despite the seeming simplicity here, the everyday reality of finding the right bass amp for your needs is much trickier than you'd expect. For starters, although tube circuits have been around for decades, many bassists still don't really understand them. But recent advances in solid-state technology have even greater potential to be confusing. In this article we're going to demystify one of the most important areas of amp design that even many experienced bassists don't adequately grasp—power-amp types and their associated power ratings.

The reason we're focusing on these is because amplifying beefy bass frequencies—moving all that air and thumping listeners' chests—requires far more power than a guitarist needs to wail on a 6-string. And once you've got a deeper understanding of how to ascertain the true power capabilities of an amp, the better you'll be able to navigate the sea of marketing-speak and tech talk surrounding amps large and small.

In order to dive deep on these two topics, though, we need to discuss a few aural and electrical basics first. To some our conversation might feel pretty complicated in parts, but I promise that if you stick with me through the tech talk, I'll tie it all together so you'll walk away with newfound clarity and practical knowledge that'll save you a lot of money, time, and hassle in the long run. In fact, you might find yourself asking, "How come no one ever explained all this before?"

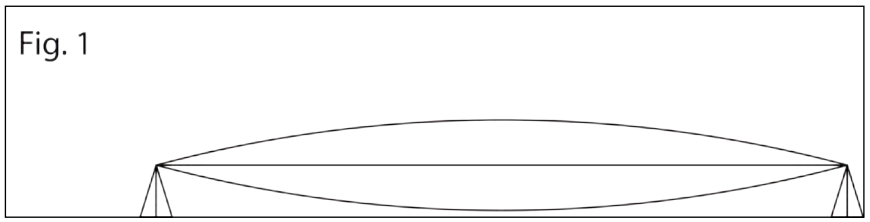
The Science of Sonics

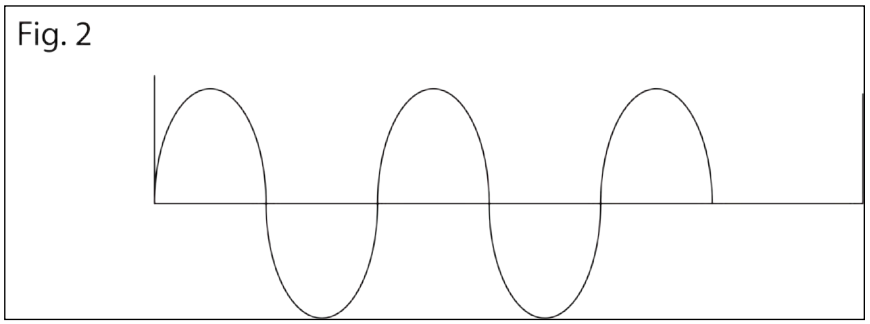
A bass note is sounded when a string anchored at two fixed points, the fret (or nut) and the bridge, is plucked. The note produced by the resulting vibrations is called the *fundamental frequency* (see **Fig. 1**). If it were possible to pluck exactly in the center of the string, the wave produced would be a sine wave (**Fig. 2**). Practically speaking, it's virtually impossible to pluck the string *exactly* in the middle, and as a result harmonics—predominantly second, but also fourth and sixth—are also produced (**Fig. 3**). This is a wonderful thing, though, because these harmonics are responsible for the rich, unique tones we all love. Each instrument and player in a band produces a differing set of tones via the unique harmonic properties inherent in their instrument, and the resulting sine wave we hear is a combination of those harmonics that looks similar to **Fig. 4**.

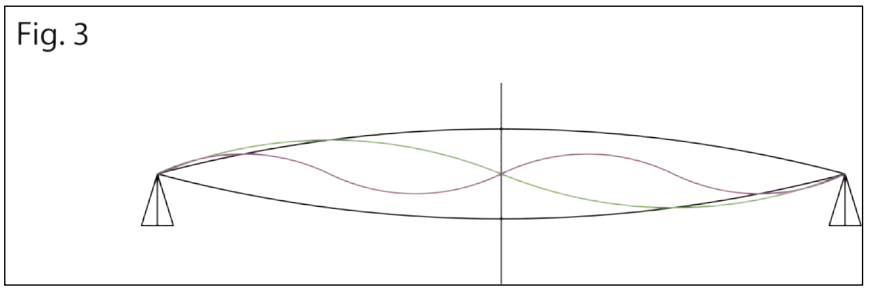
AC Meets DC, and Watts Are Born

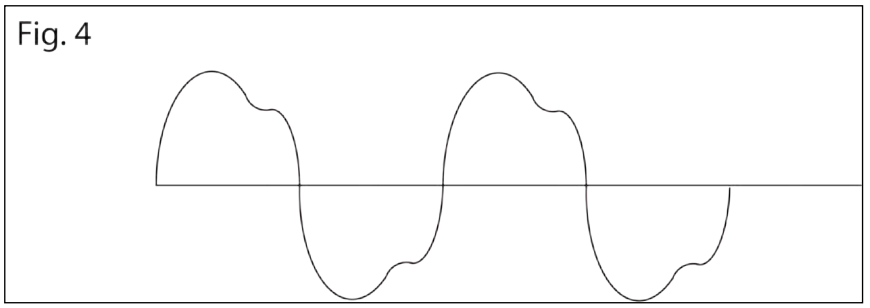
Now let's briefly look at some power fundamentals. A battery such as the 9V units used in effects pedals produces *direct current* (DC). The electricity from DC sources is under pressure to flow continuously like water from a tap. The unit of measure for this pressure is *volts* (V), and the rate of the flow is measured in *amperes* (A). When we multiply V x A, we get *Watts* (W)—the unit of measure for the power being used.

However, things aren't quite so simple when the current flows back and forth like the *alternating current* (AC) from a wall socket. The waveform for AC current should look like that produced by the vibrating string in Fig. 2. Another equation calculates the power contained within this alternating waveform—averaging it over time—in order to relate it directly to DC current. The equation involves a bunch of dual-axis chart graphing and square-root stuff that most players have no interest in. The resulting values from this more complicated math are designated *RMS* (for "root-mean square"), and with these RMS values the same V x A = W equation we used for DC current now holds true for AC: V (RMS) x A (RMS) = Watts (Avg).









Watts (Avg) is often incorrectly referred to as "RMS power," "RMS watts," or "watts RMS." However, the RMS value of the power waveform is different from the average power value (22 percent higher for a sine-wave signal), and therefore should not be used. The correct term specified by the Federal Trade Commission is *continuous average power*. Continuous average power ratings are a staple of performance specifications for audio amplifiers and, sometimes, loudspeakers.

Basic Amp Operation

Now let's look at how amplifiers work. Amps need the pressure (volts) of the AC power from the wall socket adjusted in order to make it suitable for use with your bass and speakers. This is usually done by means of a transformer or a switch-mode power supply (SMPS). The transformer and SMPS also convert alternating current to a smooth, steady direct current. This steady stream of power must then be regulated by an electronic "tap." In a tube amp, the tubes

function as the tap regulating the flow. In a solid-state amp, it's transistors.

As your bass string vibrates over the pickup (which is, in fact, a tiny generator), an electrical waveform is produced and then fed to the amplifier, where it is made larger and used to turn the transistors or tubes on and off in a matching way so as to produce a larger version of the bass-note waveform. In order to respond quickly to notes you might play at any moment, the tubes or transistors in your amp are always turned on slightly—like a car engine idling, ready to take off when you press the accelerator. The rate of this idling state is known as the *bias* setting in tube amps. Transistor amps also have bias, though it usually isn't adjustable. We'll talk more about bias later.

You'll recall that we said amps send DC to power the electronic taps. But if the stream of current is steady regardless of how much gets used up amplifying a signal at any given moment, what happens to the power not being used? The answer, my low-end-loving friends, is why moderate- and high-powered bass amps these days have cooling fans and/or heat sinks: The excess current is turned into heat that must be dissipated in order to prevent damage to the circuit. This is how conventional *linear* amplifiers operate, and there are two basic types of these: class A and class B. (There are also sub classes such as class AB.)

Class A and B vs. Class D

Let's look at linear amps a little closer. In the sine wave in Fig. 2 we can see that the wave has a central point, which is known as the X axis. Graphically speaking, this corresponds to the position of the string at rest. The wave goes positive first, then negative, then returns to rest before beginning its next cycle. To amplify this we need a central point about which to cycle the electrical equivalent of this wave. In a pure class-A tube or solid-state amplifier, this central point is half of the available volts. The tubes or transistors then turn more on or off to produce the amplified wave, which means the tubes or transistors process *all* of the signal, *all* of the time—there are no breaks, joints, or delays in the signal. It remains as sonically pure as possible.

In a class-B tube or solid-state amp, the center point is at zero volts, and two supplies are used—one positive and one negative. In such a case, two sets of tubes or transistors are used, with one set handling the positive half, and the other the negative half. This setup makes class-B amps far more efficient, with greater output potential. However, as the wave crosses the zero point and the positive half turns off and the negative half turns on, there has to be a slight overlap between the two sides to avoid breaks in the output (sound). This is where the aforementioned bias setting comes into play, ensuring that both sets are turned on slightly all the time. In a class-AB amp, the bias is set higher than a class-B amp, making the overlap between the two halves larger.

In recent years, a third amplifier type—class D—has become increasingly popular, thanks to its small size, light weight, extreme efficiency, and affordability. In class-D amps, the transistors turn full on or full off very fast—up to 500,000 times per second—positive on then off, negative on then off, and so on. Without getting too deep into electrical stuff, let's just say that





The weight of a traditional amplifier comes largely from its massive transformer—the circular object on the right. The amp's discrete components on the circuit boards make it easy to repair by a qualified tech. In this type of amp, excess current is turned into heat and then dissipated by heat sinks (upper left) or a fan.

class-D amps are more efficient because the sound from the instrument is used to control the length of time transistors in the power section are on or off. Because of this greater efficiency, class-D amps generate far less heat than class-A and class-B amps. But they are not without their problems. The output must be filtered to get rid of the switching noises, and extensive protection mechanisms are needed to prevent damage to the power supply, speakers, and other parts due to overheating or power overload. If a class-D amp does get overloaded or overheats, power will switch off for 5–10 seconds and then reset.

How to Make Sense of Power Ratings

Okay, folks, we're getting closer and closer to the crux of our power conversation. Remember when we talked about continuous power output? For a very long time that was the most widely accepted basis for amplifier power ratings, because it has a direct correlation to real-world needs.

Because of this greater efficiency, class-D amps generate far less heat than class-A and class-B amps. But they are not without their problems.

However, over the last few years myriad other power-rating formulas have been invented or brought back from obscurity. To be blunt, the only reason I can see for some of this is to fool consumers who can't make sense of all the technical terminology and to make products sound more powerful than they actually are. These other rating types include *burst power*, *peak music power output* (PMPO), and *fast pulse power before clipping* (FFP).

To measure an amplifier's power, we feed a sine wave (Fig. 2) into the front of the amp, connect a load of the correct impedance to the output, and turn it up. Maximum output is reached when the top or bottom of the waveform starts to flatten out, a phenomenon known as *clipping*. The output is then measured and noted.

Now let's look at how output ratings are listed on some products currently for sale on the market. (We aren't disclosing makes or models, because the point here is to make sense of all those numbers, terms, and acronyms.) If an amp is listed as having "continuous power output of 500 watts RMS into 4 ohms at 1% THD," it means that, at the point of clipping, the amp can produce 500 watts of electrical power on a sustained, continuous basis.


Photo: Daniel Falk
» Sorry Sigurd, but this Fafner II is alive and give me a mean low-end sound for the mighty Testament and Death itself *
STEVE DI GIORGIO
[TESTAMENT/ Death DTA]
* For those less initiated in Norse mythology, Sigurd was the character that killed the dragon called Fafner, but apparently, he didn't do the job very well...
FAFNER
EBS ARTIST
PETER IWERS
IN FLAMES
EBS ARTIST
MIKE D'ANTONIO
KILLSWITCH ENGAGE
EBS ARTIST
JASON KLEIN
BUTCHER BABIES
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Bjorn, Peter, Mike and Jason also use EBS Fafner II bass amps!
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Top right: A class-D amplifier lacks a transformer, which means it's much lighter than a traditional amp and it generates very little heat. But if the power module fails, it typically can't be repaired. Replacing it is so expensive that most players opt to buy a new amp instead.

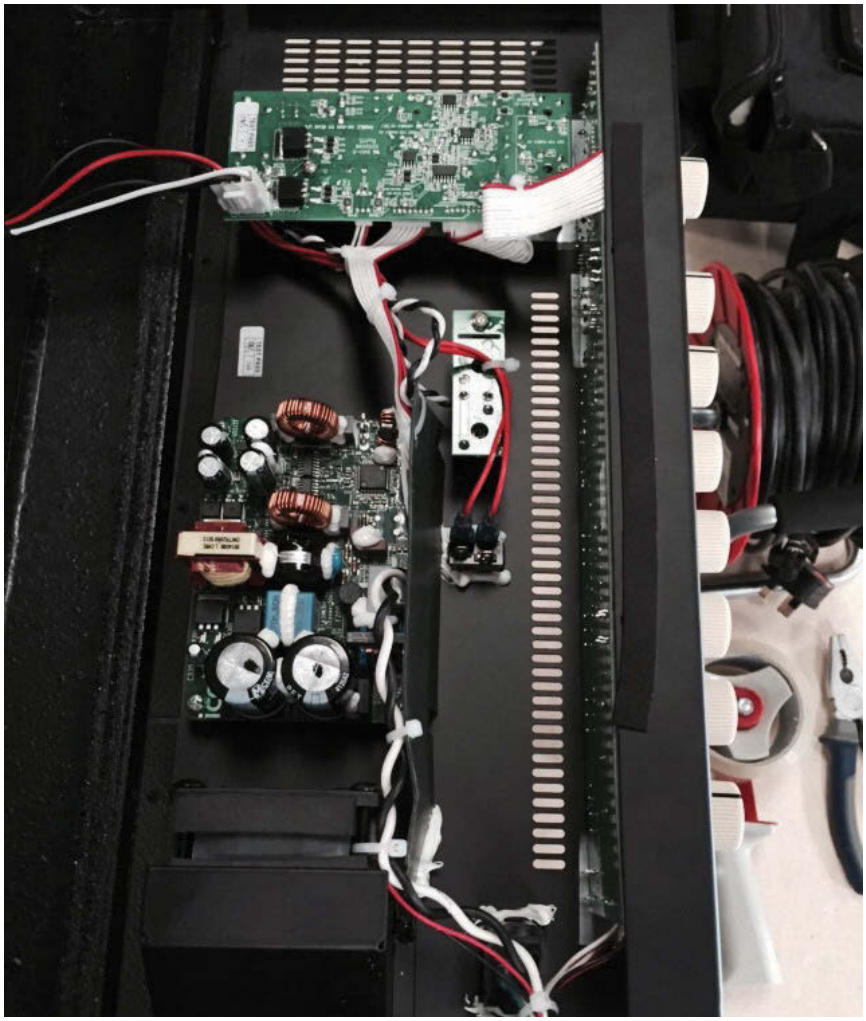
Those two words—"sustained" and "continuous"—are key because they indicate a stamina that is crucial to certain musical situations. That's a good thing, and here's why: The waveform we've been looking at so far depict steady-state waves, but when you're playing bass it's not just one steady note with no dynamics. There's a larger peak at the onset of the note when the string is plucked, followed by the decay as the string ceases vibrating. **Fig. 5** looks more like the waveforms in composite music reproduction, where there are peaks due to loud sounds (such as drum beats) and lower sounds (like vocals and backing instruments).

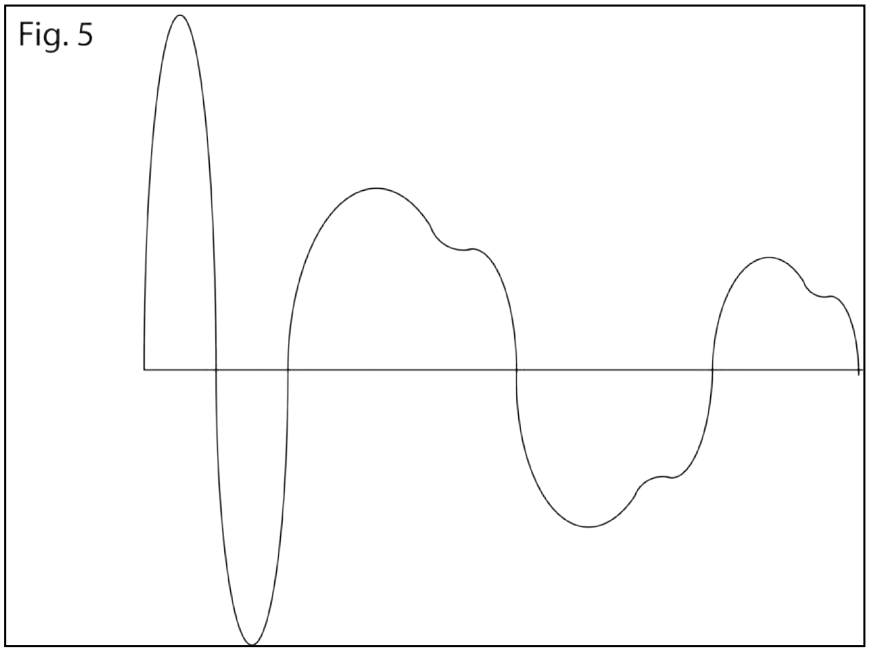
In 1959 the British tube manufacturer Mullard noted in its *Circuits for Audio Amplifiers* guide that the *average continuous* output power required for general music reproduction (e.g., a recording of a band) was approximately an *eighth* of continuous power at full volume if the *transients* (large peaks in the waveform caused by sudden, loud signals) were to remain unclipped. This is a power rating system that has reared its ugly head again recently, especially with regard to lightweight class-D amplifiers. Most class-D bass amps today use small power modules designed for *general* music reproduction—not low-frequency-heavy bass—and they are rated using this 1/8th-power system rather than the more robust continuous average power rating.

Here's part of the power specifications for a bass amp using a typical class-D power module:

Key Specifications:
- 300W at 1% THD+N, 4Ohm
- Full power bandwidth (20Hz – 20 kHz)
- 113dBA dynamic range (300W, 4Ohm)
- THD+N = 0.005% (1W, 4Ohm)

An amp with these specs will be marketed as a 300-watt amplifier. But what the specs don't tell you is that this class-D amp module can only sustain 300 watts of output for a maximum





of 27–60 seconds! This is more or less the norm for all class-D modules, and it's perfectly acceptable for, say, playing MP3s of your favorite band. But if we go back to Mullard's average continuous formula and calculate backward, we find that only 1/8th of those 300 watts—about 38 watts—is continuously available. This rather optimistic math is used as justification for selling what's really a 60-watt amp as a 300-watt.

Know Your Needs

Despite what I've just said, I want to make it clear that I'm not saying class-D amps can't sound good and perform well for bass players. But whether they're right for you does depend on what you play, how you play, and what other gear you use. For example, if you're a slap player who uses the bass as more of a percussive instrument (like Mark King of Level 42, for example), the waveform going from your bass to your amp will be very similar to general music waveforms. It'll have a series of large peaks (transients) and a lower average power demand. That means serious output power is not required for any length of time. This is more or less perfect territory for the typical class-D amp.

The situation changes somewhat for players who use compressors, because compressors remove the large transients and elevate the decaying note so that the resultant wave more closely resembles a continuous waveform. The more compression, the more continuous the waveform gets (Fig. 4). And the higher average volumes that compressors and limiters promote require more amplification power for a longer period of time. Throw in some pedals, perhaps a sub-harmonic generator or an oscillator, and the problem is compounded even more.

Some manufacturers of class-D amps have started to address this problem by fitting extra heat sinks and cooling fans to the power modules in an attempt to push the continuous power ratings higher, prevent thermal shutdown, and make the modules more suitable for musical-instrument amplification. But there is still some distance to go in this regard.

Another crucial thing to remember when buying a bass amp is that frequency response





is intimately connected to power ratings. In a tube amp, the lowest frequency that can be reproduced is determined by the size of the output transformer and its ability to transfer the low frequencies to the speaker. It's usually around 30 Hz. In solid-state linear amps (class A, B, AB, etc.), the low frequency that can be reproduced is approximately 20 Hz—the lowest frequency humans can hear. But some class-D amplifier manufacturers limit the lowest frequencies to around 60 or 70 Hz to use less of the already-low continuous power and make the amp sound louder. The result is usually an amp that sounds boxy and has no real low-end substance.

Similarly, it's critical to consider how an amp will react to being overloaded by, say, stepping on an external boost or fuzz pedal, or by cranking the gain and volume to max. Whether this is a big deal to you will depend largely on the genre of music you play. Tube amps tend to growl and snarl in a way that can be very pleasing.

Another crucial thing to remember when buying a bass amp is that frequency response is intimately connected to power ratings.

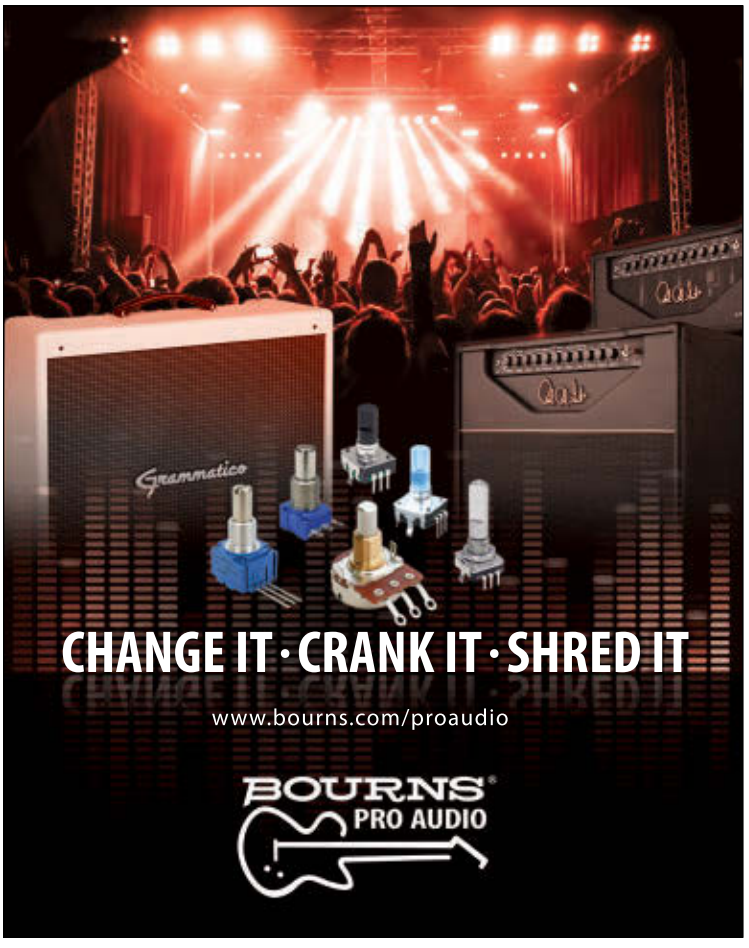
For rock bassists, nothing comes close to the sound of a good tube amp at full bore. Traditional linear class-A and class-B transistor bass amplifiers also tolerate quite a bit of overloading, although most players don't find the distortion to be as pleasing as tube distortion.

Class-D amps, on the other hand, do not tend to react well to overloading due to built-in protection mechanisms. Under slight overload the amp will limit or cut the output momentarily, and under heavier overload the output gets switched off completely for a few seconds. The leading manufacturer of OEM class-D modules has fitted the latest models with soft clipping in an attempt to solve this problem, but there is some distance to go before the problem is solved. However, if the style of music you play is less likely to result in overload situations (for instance jazz or fusion), this may be less of a concern.

Worst-Case Scenarios

Bass amps from reputable makers should be reliable if you treat them properly. However power sections *do* die sometimes, and here is where another big difference between amp types emerges. Tube amps usually blow tubes, which is no big deal:







The PlexiTone has a crunch channel, a high gain channel and a third channel of with up to 20db of clean boost. It can go from subtle overdrive to absolutely meltdown which can be pre-set in three stages.

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You buy some more, plug them in, maybe have a tech re-bias them, and enjoy months or years of great tone. It's easy, simple, and not too expensive. This is why hundreds, maybe thousands, of old tube amps are still being used onstage and in the studio decades after they were built. Traditional class-A or class-B transistor power amps are also usually very easy to repair. Parts are available from most electronic suppliers, and a good tech can diagnose and fix the problem at reasonable cost by replacing only the parts that have blown up.

The power modules in class-D amps, however, usually cannot be repaired. If the power section fails, paying a tech to replace the power module will cost about half as much as the complete amplifier. In these cases, most players will opt for a new amp instead. This represents a total loss to the customer, and is also bad for the environment because the surface-mount circuit boards in most of these amps are hard to recycle into anything useful. Then there is the second-hand value to consider: A lot of musicians primarily raise funds for new purchases by selling old gear. Tube amps seem to go up in value as they get older. Traditional heavyweight linear amplifiers also do well, largely because their low repair costs mean if you buy a duffer it can be fixed without breaking the bank. Sadly, many modern lightweight class-D amps with surface-mount modules that cannot be repaired have almost no residual second-hand value.

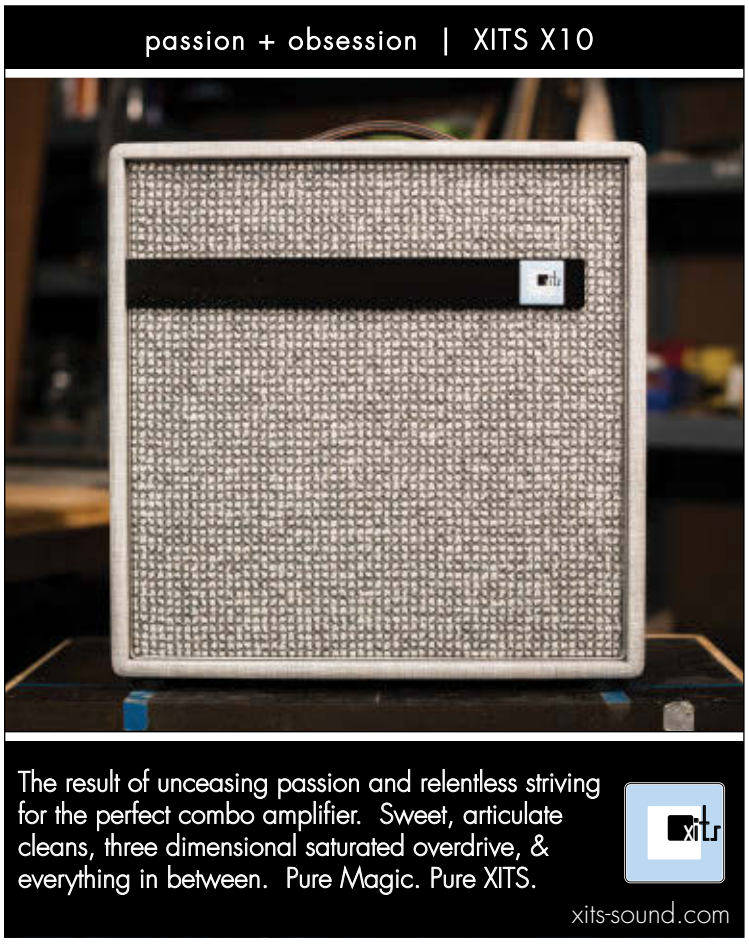
Armed and Dangerous

We've covered some pretty heady territory here, but now that you have a better understanding of power-amp types and their power ratings—one of the most mysterious and significant areas of amp design—you'll be able to make your next amp purchase much more confidently.

It's worth noting that almost all the big bands and pro musicians use old-school, heavyweight tube or solid-state amps, and the particulars we've discussed here are a huge reason why. But like I said, class-D amps can be solid performers. Just be sure to pay attention to the fine print. If you're interested in a lightweight class-D unit, be sure to select the right output power. If a 200-watt tube or traditional solid-state amp would meet your power needs, double that and get a 400-watt class-D amp to be safe—it won't weigh much more.

There are a lot of very good amplifiers out there—tried-and-true designs that are still in production after many years, as well as modern heavy and lightweight designs from outfits new and old. So try as many as you can, don't rush into anything, and buy the best that you can afford. Happy hunting!

Mark Gooday was managing director and a head engineer at British bass-amp outfit Trace Elliot prior to its 2005 acquisition by Peavey Electronics. In 1997 he founded Ashdown Engineering, one of the top dedicated bass-amp producers in the world.






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Developing Your Solo Voice

BY VICTOR BRODÉN





Top right: Pino Palladino playing the very bass he used in the 10 seconds of music that made me interested in soloing.

Bottom right: Bending is an astoundingly effective soloing tool. The impact is enormous, since it isn't as common as bending on guitar.

When I attended music school in Minnesota 20 years ago, I was a long-haired metal kid who also loved pop and soul music. Even though I was in music school, the idea of playing bass solos or performing unaccompanied didn't appeal to me. I started playing because I loved the songs performed by great singers, and I wanted to be the foundation of something bigger than my own playing. That would soon change.

British soul singer Paul Young had remade Marvin Gaye's little-known "Wherever I Lay My Hat (That's My Home)" a few years before I started school. The track featured the now legendary Pino Palladino on bass. (The intro was a bass solo!) It was a slow, gorgeous ditty in the key of F that sounded completely fresh and original. The timbre Pino produced with his '79 Music Man fretless reminded me of a human voice, and it provided the perfect counterpart to Young's silky voice. Technically, it was nowhere near as advanced as a lot of the hard-rock stuff I was listening to at the time, but that intro would help change my life.

I remember hearing a classically trained opera singer at one of my school's Friday concerts, and the wheels in my head started turning. I began to envision bass in a different way, though my vision was still slightly blurred. I needed help, and I thought that she might provide it.

I nervously introduced myself and suggested we go to a rehearsal room and attempt the Paul Young song, only without all the other instruments—just a duo performing the original bass line and vocal. What followed was her voice and my fretless surrounded by a lot of silence and air, and it was pure magic for both of us. I discovered bass as its own voice instead of a rhythm section pillar—nine years after first picking up the instrument!

You can find countless online clips of bassists playing solos in many ranges and styles. Many of these guys are mind-boggling, but some have spent more time soloing online to develop a following rather than playing with fellow humans and learning the language of music as a communication tool. I recently experienced this firsthand during an audition engagement for a multi-platinum recording artist. One auditioning drummer whose videos get millions of views on YouTube was completely unable to keep it together playing a simple, basic shuffle. This was a real eye-opener—a lot of these guys are only able to speak effectively by themselves.

If, like me, you come from genres where bass solos aren't the norm, it can be a challenge to find a starting point for developing a solo voice. We're simply used to guitar solos in the music we play. But as much as I love guitar solos, I look to singers for solo inspiration. Singers use shorter phrases. They have to take small breaks when they stop to breathe. They can't go too fast because they have to fit the words in. See where I'm going with this?

There are countless tapping and slapping clips online because fast, rhythmical stuff sounds cool on bass. But to make your bass really sing and make people feel your solos, there has to be weight and meaning behind every note. I think the best way to get there is by learning vocal melodies from your favorite songs.

There are several advantages in learning to emulate the human voice, especially by introducing vibrato. On fretless, vibrato is your main selling point, but vibrato on a fretted bass also makes a big statement. Everything from the fast vibrato of blues players like B.B King to the slow vibrato of classic soul singers is applicable, and different vibrato styles make different statements. (I tend to use slower vibrato so I don't distract too much from the note itself.)

Note bending really grabs the listeners' heartstrings. Guitarists frequently use bending, but it's not something you hear every day on bass, especially bends from one clearly defined pitch to another. Whole-step bends can be difficult on bass, but being able to bend a half-step in tune is a valuable soloing tool.

The combination of right-hand placement and effective dynamics is our most useful way to change sounds without touching knobs on a bass or amp. One growly note played close to the bridge with a heavier touch creates anger, while one note played softly near the neck adds a lighter mood. Every nuance between can create a range of emotions—a complete movie scene—within your solo. Try it slowly. Be overly dramatic. Make it cheesy if you have to, as long as you *feel* it. When you do, other people will feel it too, and you'll make a bigger statement than the guy trying to speed-tap his eight-measure solo.



VICTOR BRODÉN *is a Nashville bassist and producer who has toured and recorded with more than 25 major-label artists, including LeAnn Rimes, Richard Marx, Casting Crowns, and Randy Houser. You can reach him at vbroden@yahoo.com.*

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Positioning Piezo Pickups on an Acoustic Bass Guitar

BY HEIKO HOEPFINGER





When we previously surveyed several different types of pickups for acoustic bass guitar ["Amplifying an Acoustic Bass Guitar," July 15], we gave the popular under-saddle transducer some extra attention. Let's continue this line of thought and see what else we can do with a piezo.

Not all under-saddle piezo pickups are the same. If you're unhappy with how yours sounds, you might consider seeking a replacement. But before you spend cash on a new one, it's a good idea to check whether yours is set up properly. This can involve removing dirt from the saddle slot, making sure the piezo has enough space within its slot, adjusting the strings' break angle over the saddle, and defeating hum. Numerous installation and trouble-shooting guides on the web cover these common issues.

While the number of piezo products isn't as huge as with magnetic pickups, it's still tough to choose the right one. Although the piezo material itself doesn't vary much, there are quality differences between devices. For example, some piezos are wrapped in simple heat-shrink tubing, while others have hard, thin conductive coatings.

Here are some oft-mentioned disadvantages of under-saddle piezos:

- Unbalanced string volume. This can occur easily, and it often takes a long time to correct.
- When the piezo is under high pressure (or rather, intense contact), the resulting tones can be harsh, unnaturally direct, and overly percussive.
- Piezos detect the movement of the string—not the soundboard—which can result in unnatural tones.

Some of these critiques are irrefutable, while those involving tone quality are subjective. At any rate, you can't judge quality by price alone. (For example, the heat-shrink tubing on a cheap model might soften those harsh, percussive qualities.)

One obvious solution is to change the piezo's position, moving it from under the saddle to the soundboard. On a bass with acoustically balanced strings, this guarantees equal string volume. (And once mounted inside the body, the piezo is as invisible as an under-saddle pickup.)

Speaking of volume: Without direct string contact, soundboard transducers tend to output lower levels, partly because of the softer initial attack. Some manufacturers compensate for this with preamps, or by employing two or more transducers. These soundboard transducers should be mounted either directly under the bridge, or in areas that vibrate as much and as freely as possible, so stay away from structurally "dead" bracing areas. Experimenting with positions can be time-consuming, but it's not as annoying as trying to balance string volume by sanding an under-saddle piezo.

Because the soundboard is the natural source of acoustic tone, the soundboard solution would seem to be a clear winner, right? Not so fast: It's a bit shortsighted to claim that under-saddle transducers don't take the soundboard into account. The piezo is a pressure sensor, so if you move the saddle's base (the soundboard), the pickup will surely pick up the difference signal, not just the string above. Also, if you glue a pressure sensor to the soundboard, it will move along with the soundboard. Can you then expect it to provide the full sonic picture?

There's a third option—let's call it "mid-saddle." Here, the piezo is a fixed part of the saddle itself. This approach keeps some string pressure off the pickup element, which can reduce the unnaturally percussive attack of under-saddle construction.

Instead of using a single piezo element that extends the entire saddle length to simultaneously pick up all strings, mid-saddle systems comprise a set of single-string pickups. Check it out: **Photo 1** shows an ETS single-string saddle with an embedded piezo. In this type of design, each single-string piezo is glued into the saddle or embedded in resin, and this protects the electrical and mechanical contacts. Still a rarity on acoustic bass guitars, the fully adjustable bridge (**Photo 2**) on this Chris Larkin instrument contains five RMC single-string pickups.

Ah, but we're not done yet. If you wire a set of single-string pickups in parallel and send the combined signal into one preamp, you can only hope the manufacturer has carefully preselected the pickups for even volume, as there's no way to alter each pickup's volume on your own. To avoid such problems, you can go the more expensive route of sending each string's signal to a separate, adjustable preamp. Of course, once you have single-string outputs, there's also the option to use MIDI.

And as if this weren't already complicated enough, there are many solutions that combine various approaches we've been discussing. And we haven't even talked about microphones yet—though we will soon.



HEIKO HOEPFINGER *is a German physicist and long-time bassist, classical guitarist, and motorcycle enthusiast. His work on fuel cells for the European orbital glider Hermes led him to form BassLab (basslab.de)—a manufacturer of monocoque guitars and basses.*

Photo 1: Courtesy of basslab.de **Photo 2:** Courtesy of chrislarkinguitars.com

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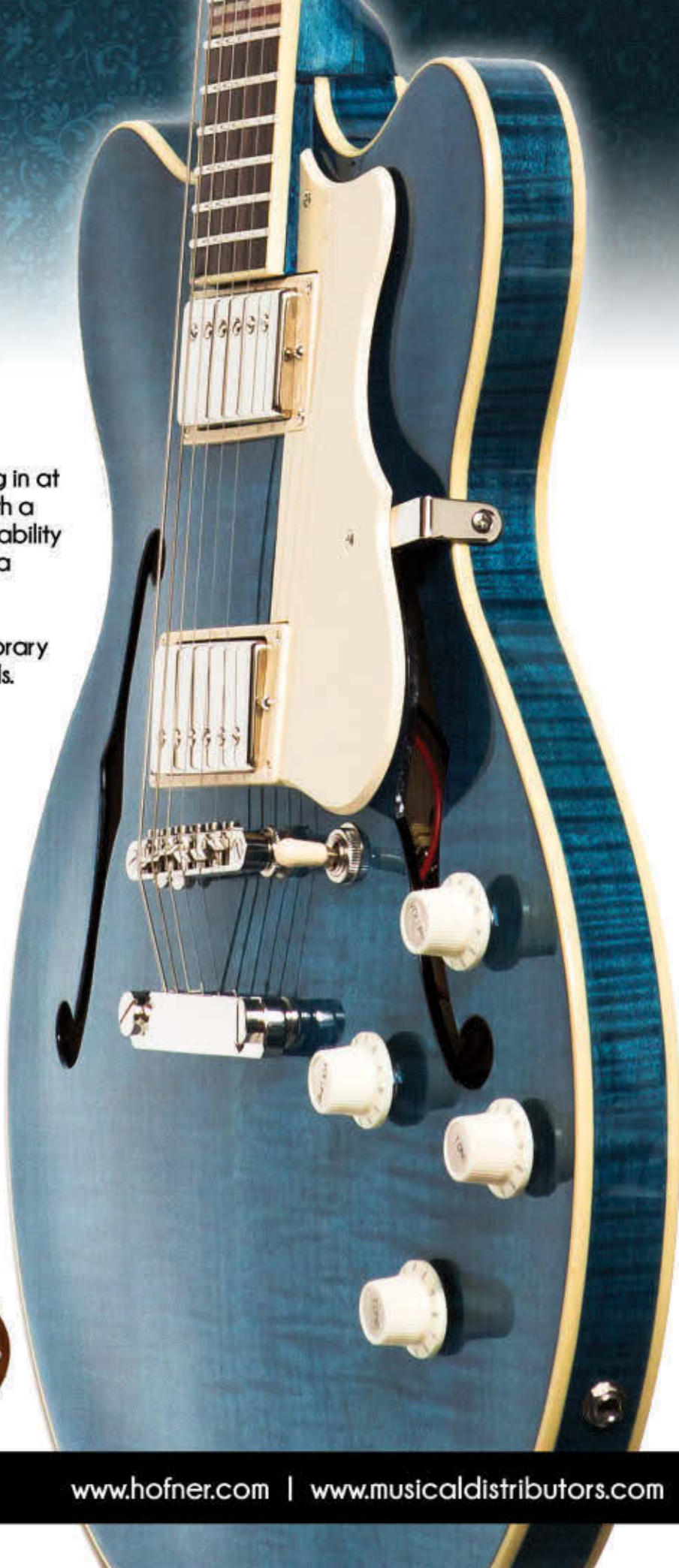
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POWER TRIP

Whether you're shopping for a new amp or trying to coax different tones from one you've got, this comprehensive guide to power tubes and their signature sounds is essential reading.

BY KURT PRANGE

Look at the back of any all-tube amp, and you'll see warmly glowing glass bottles in a variety of shapes and sizes. Power tubes (aka output tubes) are typically the biggest ones of the bunch, and they provide the last stage of amplification for the guitar signal before it's delivered to the speakers. The "power tube" name is a bit deceptive, however, because these big bottles don't just power your speakers—they actually play a significant role in shaping your amp's sound and responsiveness.

Regardless of its manufacturer, each power-tube type—EL34, EL84, 6L6, 6V6, 5881, etc.—has a basic sonic personality. Getting to know those tonal characteristics can be a huge help, whether you're trying to track down a new amp with specific sonic traits, or just wondering whether you can change the sound and feel of an amp you own by using different power tubes (see the Swapper's Delight sidebar on p. 158).

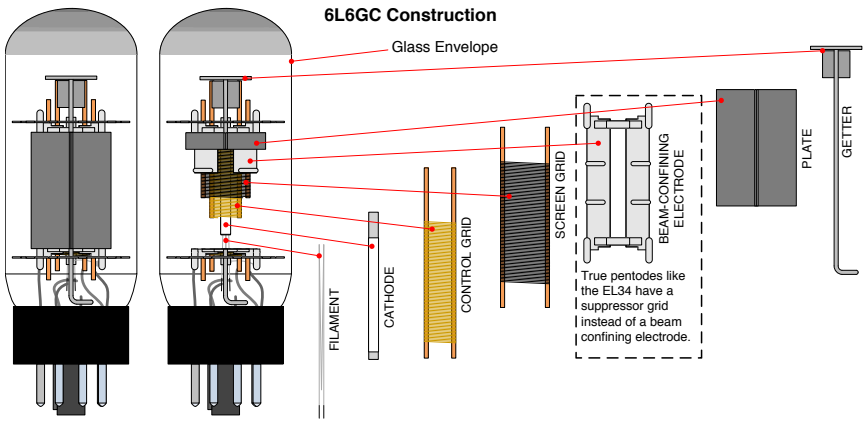
To represent the signature sounds of the most popular tubes, I've relied on classic rock examples from the 1950s, '60s, and '70s. I don't mean to suggest that tube amps are only good for playing classic rock. But during that era, there was a greater separation between American and British sounds. Also, players used few, if any, effects in those days, so you can often hear the sound of a guitar plugged directly into an amp, providing clear examples of the core sounds associated with each tube type.



Photo by Andy Ellis



Fig. 1



Tech Talk: Anatomy of a Power Tube

A power tube is essentially a control valve used to regulate the flow of electrons. (This is why guitarists across the Atlantic refer to our little glass friends as "valves" rather than "tubes.") The electrons flow from a part of the tube called the *cathode* to the tube's *plate*, as shown in **Figure 1**. While all power tubes have a cathode and a plate, much of each model's sonic character is due to its specific components and construction.

The power tubes we're discussing here fall into three categories: *tetrode*, *pentode*, and *beam power*. Tetrode tubes have four electrodes—the aforementioned cathode and plate, as well as a *control grid* and *screen grid*. When you turn on your tube amp, the tube *filament* at the center of the bottle receives a voltage (usually 6.3V) that heats the cathode to free up electrons in preparation for current flow. The plate and screen are given large positive DC voltages to attract the electrons from the cathode to the plate. When your amp is in standby mode, the plate and screen voltages are removed to keep the electrons from flowing, while keeping the cathode warm for instant current flow at any moment. The control grid is given a negative DC voltage that restricts the flow of electrons from the cathode to the screen and plate. When the control-grid voltage is made more negative, electron flow from cathode to plate is reduced. When the control grid is made less negative, electron flow increases. When electrons from the cathode hit the plate, other electrons from the plate may become dislodged and flow to the screen grid, a phenomenon called *secondary emission* that reduces the efficiency of the tube

Pentode and beam power tubes add an additional electrode between the screen grid and plate to reduce the occurrence of secondary emissions. Pentodes add a grid called the *suppressor grid*, while beam power tubes usually add a *beam-confining electrode* instead.

WARNING:

All tube amplifiers contain lethal voltages. The most dangerous voltages are stored in electrolytic capacitors, even after the amp has been unplugged from the wall. Before you touch anything inside the amp chassis, it's imperative that these capacitors are discharged. If you are unsure of this procedure, consult your local amp tech.

6L6GC

NOS electrical specs (GE essential characteristics)
Classification by construction: *"beam power amplifier"*
Filament volts: *6.3 V*
Filament current: *0.9 A*
Max plate volts and watts: *500 V, 30 W*
Max screen volts and watts: *450 V, 5 W*





The 6L6 was introduced in the 1930s and made in the United States. Early on it was primarily used in radio sets, with a metal envelope to prevent breakage. Revisions to the original 6L6, such as glass envelopes and increased power handling, yielded new designations such as 6L6G, 6L6GA, 6L6GB, and finally the 6L6GC (introduced in the late 1950s). Because of its superior power handling and efficiency over the earlier 6L6 versions, modern tube manufacturers only make the 6L6GC. As a result, most guitarists and some manufacturers simply refer to the 6L6GC as "6L6." If you plan on buying a new-old-stock (NOS) 6L6GC, be careful not to order the original, metal-tube 6L6—which will likely sound bad and won't be able to take the heat from your guitar amp.

The 6L6GC is commonly associated with classic American rock 'n' roll and the sound of vintage Fender amps. It was Fender's tube of choice in the '60s for such higher-powered amps as the Bassman, Showman, and Twin Reverb. For a great demo of the 6L6GC sound from back in the day, check out Dick Dale and the Del-Tones' 1963 performance of "Miserlou." (See the "YouTube It" sidebar for links.) The lows come through fat, punchy, and strong. Mids are tight, articulate, and warm, accented by top-end chime. The 6L6GC does not break up easily—and when it does, the overdrive sound is thick and tight.

The KT66 and 5881 are common substitutes for the 6L6GC. Developed in the late 1930s as Great Britain's rival to the American 6L6, the KT66 was used in many Marshall amps from the early to mid 1960s. Most believe that Eric Clapton recorded "Hideaway" with John Mayall's Bluesbreakers in 1966 using a Marshall JTM45 with KT66s. Clapton found his sound during this era using a Les Paul's bridge pickup, maxing-out the volume on the guitar and the volume and bass on the amp for a uniquely fat overdrive sound with much bite and sustain. Try a KT66 in place of the 6L6GC for a slightly cleaner sound.

The 5881 predates the 6L6GC. It was introduced in the early 1950s as a smaller, more rugged version of the 6L6G for military use. The 5881 was used in Fender's famous tweed Bassman, whose circuit was copied for the earliest Marshall amps. (These are probably the tubes Buddy Holly had in his Bassman.) Try the 5881 in place of a 6L6GC to reduce low-end frequency response and get easier breakup into overdrive.

Above left: Photo by Tim Mullally / Dave's Guitar Shop **Above:** Photo by Tom Moberly

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"The 6L6GC is commonly associated with classic American rock 'n' roll and the sound of vintage Fender amps. It was Fender's tube of choice in the '60s for such higher-powered amps as the Bassman, Showman, and Twin Reverb."

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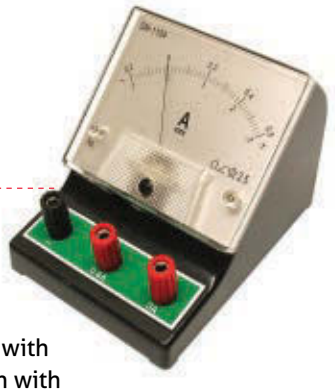
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SWAPPER'S DELIGHT



Swapping out power tubes is much trickier than with preamp tubes. Preamp tubes like the famous 12AX7 are *cathode biased*, which allows the tubes to automatically adjust themselves if one tube runs a little "hotter" (with more plate current) or "cooler" (less plate current) than another. (If you're in for some preamp-tube-swapping fun, be sure to visit premierguitar.com to download our comprehensive PDF comparing tonal characteristics of 23 different 12AX7s on the market today.) If your amp also has cathode-biased power tubes, you can simply plug in a new tube of the same type (or a direct substitute) without needing a bias adjustment—just like with a new preamp tube.

Before we talk more about ways you can swap your amp's power tubes with a different type, let's discuss biasing in a little more detail. Most higher-powered amps (20 watts or more) have a fixed bias, because it's more efficient and gives the amp more power output. The drawback with *fixed bias* is that the tubes cannot automatically adjust themselves. They require a bias adjustment if they run a little hotter or cooler than the optimal setting. Many compare biasing an amp to tuning up a car, because the term refers to the tubes' "idle" setting, and optimal settings vary from tube to tube. Some amps feature self-adjusting bias. Others have a fixed setting you can adjust via an internal bias pot. Others are simply fixed—i.e., not adjustable.



With a fixed-bias amp, it's a good idea to check the bias whenever you change power tubes. Even tubes of the same type can run a little hotter (i.e., with more plate current) or cooler (with less plate current) in the same amp—even if they're the same brand. Many people prefer to use electrically matched power tubes and adjust the bias each time they change them, seeking an ideal bias point for sound quality and tube longevity.

All right, now let's get back to the idea of swapping tube types. With the exception of the EL84 and its nine-pin miniature base, all of the power tubes mentioned in this article have eight-pin *octal* bases and can fit into the same tube sockets. However, just because they *seem* interchangeable doesn't mean you can randomly plug different power tube types into an amp not designed for them! Doing so risks damaging the circuit.

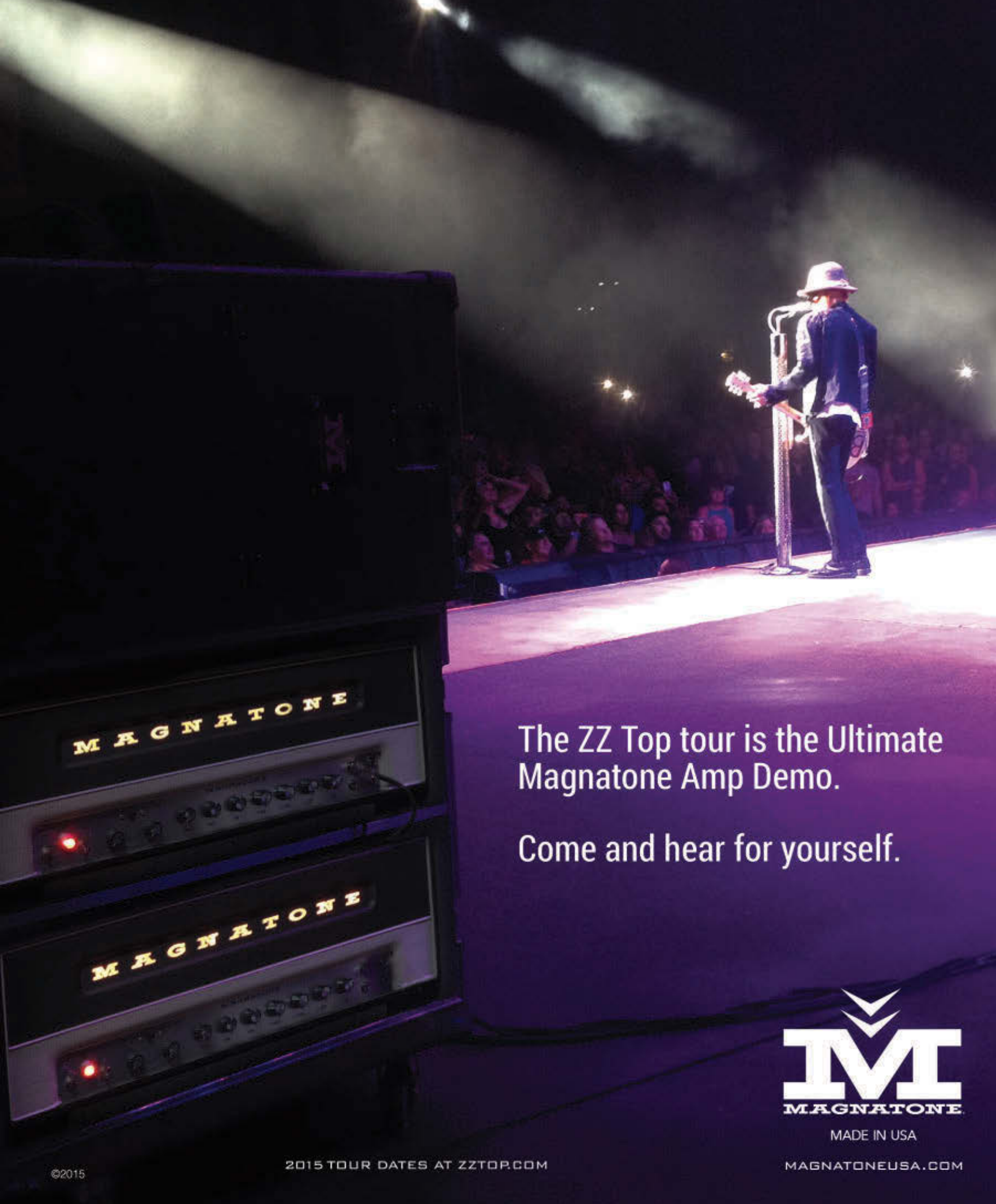
For example, let's say you have an amp designed to use four 6L6GC power tubes, and you want to hear what it sounds like with four KT77s. Four 6L6GCs draw about 3.6 *amperes* (or amps, denoted by the mathematical symbol A) of current from the power transformer's 6.3 volt (V) filament winding (0.9 A x 4 = 3.6 A), while four KT77s draw about 5.6 A (1.4 A x 4 = 5.6 A). If your amplifier's power transformer isn't capable of handling the extra 2 A of filament current, you're guaranteed to blow it. And replacing a power transformer can cost several hundred bucks once you factor in parts and labor.

So what can you do to tweak your power-tube tone if you're not a tech? Get a *bias meter* and learn how to bias. Bias meters allow you to plug an *ammeter* (current meter) into the tube socket for an easy access measurement of the idle plate current. If you're happy with the sound of your power tubes, measure their idle plate current and use that as a reference for biasing future power tubes of the same type or their direct substitutes. When biasing a new set of tubes, it's always safer to start with the coldest bias-pot setting and slowly make it hotter while watching the current measurement increase on your bias meter. Don't make the bias too hot, or your tubes' plates will start glowing red and tube life will be cut short. Also, be sure you only play at a low volume with the bias meter in place so you don't damage the meter. When in doubt, take it to a tech.

Beyond optimizing your amp's biasing, you can also experiment with new sounds even with the existing tube types. Some manufacturers' offer matched power-tubes sets (of two or four) that come with measurements based on how much plate current they draw at the same bias point. Hotter tubes will have a higher plate-current number, and the cooler tubes will have a lower plate-current number. And you can actually hear a significant difference in tone when a power tube is running hotter or cooler: When biased for the same amount of idle plate current, the hot tube will get louder, with less distortion, and the cooler tube will break up easier, allowing for more power-tube distortion. You should also try different brands of power tubes, because there are tonal differences.

One way to swap power-tube types without having to involve a tech is to try a converter like those from Yellow Jackets or VHT. (Full disclosure: My employer, AmplifiedParts.com, owns the Yellow Jackets line.) If your amp comes with one of the common octal power-tube types (6L6, EL34, 6V6, 6550, 7027, or 7591), these converters allow you to plug cathode-biased EL84s in their place without bias adjustment. This allows you to get more power-tube distortion at lower overall acoustic volumes, as well as give your amp some of that famous British EL84 flavor.

Finally, if you want to switch it up completely and try out a different power-tube type that is not considered a direct substitute for your amp's original power tubes, contact the amp manufacturer or a technician first. It may be possible, but an expert needs to ascertain this based on the tube types and specific amplifier circuit in question.



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6V6GT

NOS electrical specs (GE essential characteristics)
Classification by construction: *"beam power amplifier"*
Filament volts: *6.3 V*
Filament current: *0.45 A*
Max plate volts and watts: *350 V, 14 W*
Max screen volts and watts: *315 V, 2.2 W*



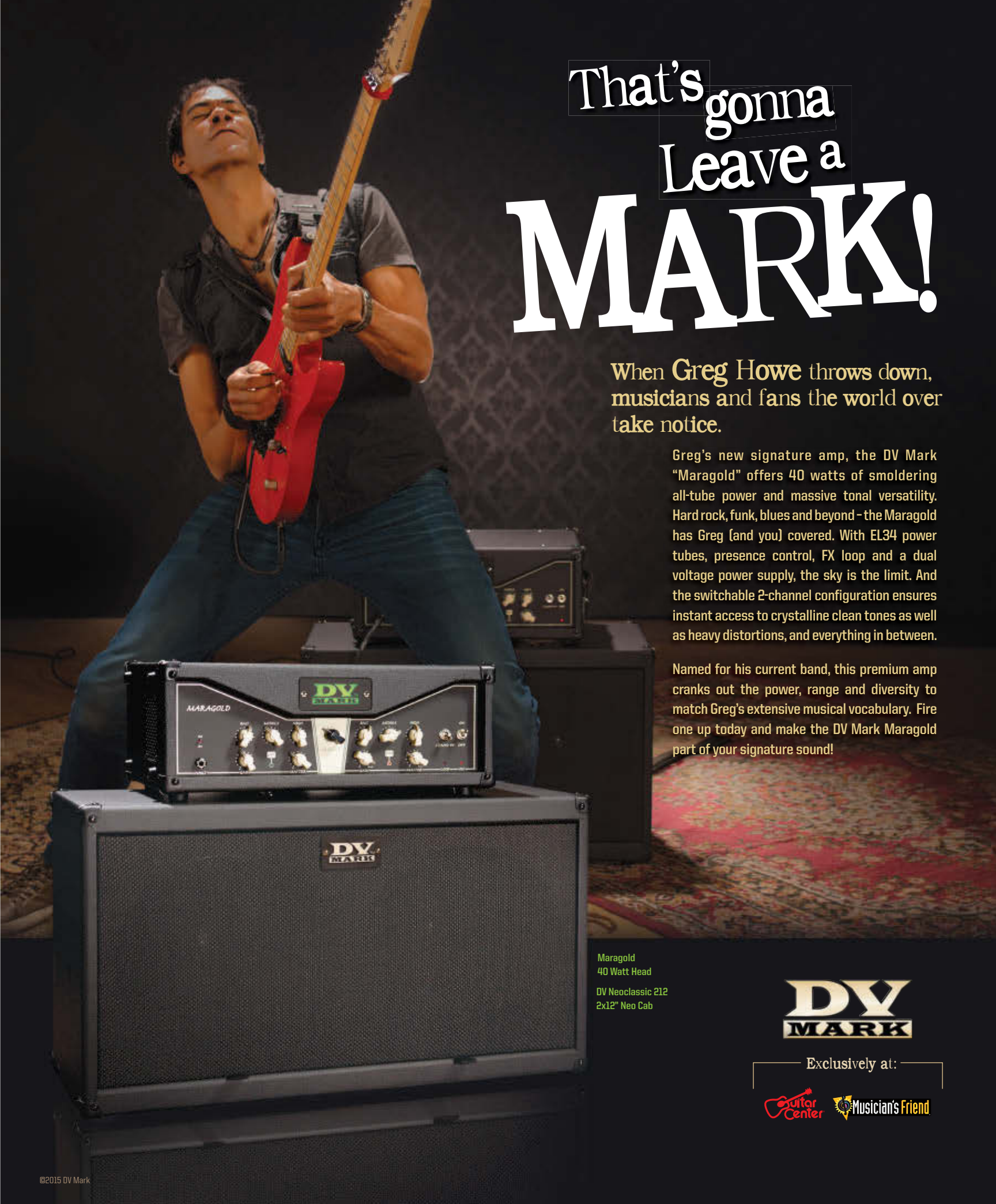
Like a small cousin of the 6L6, the 6V6 started out as a metal tube in the 1930s. Developments in the 1940s culminated in the glass 6V6GT we know today. Because the original metal 6V6 is no longer made, most guitarists simply refer to the 6V6GT as "6V6." The 6V6GT is commonly associated with Fender student-model amps of the '50s and '60s, like the Princeton and Champ. Eric Clapton recorded "Layla" with Derek and the Dominos using a Champ.

The 6V6GT has a more straightforward tone than the 6L6GC, with reduced low-end and a little less treble chime. It breaks up into overdrive more easily, and it can be useful for getting classic American tone with power tube distortion at relatively low levels.





Far left: Photo by Tim Mullally / Dave's Guitar Shop **Left:** Photos by Tom Moberly


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> "The 6V6GT has a more straightforward tone than the 6L6GC, with reduced low-end and a little less treble chime."

Photo by Tim Mullally / Dave's Guitar Shop


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EL34

NOS electrical specs (Philips Data Handbook)
Classification by construction: *"A.F. output pentode"*
Filament volts: *6.3 V*
Filament current: *1.5 A*
Max plate volts and watts: *800 V, 25 W*
Max screen volts and watts: *500 V, 8 W*





First introduced in the early 1950s in the Netherlands, the EL34 is commonly associated with the British sound of high-gain Marshall amps. In 1966 Marshall switched from the KT66 to the EL34 as their power tube of choice. In September of that year, Jimi Hendrix arrived in England to form the Jimi Hendrix Experience and, taking his cue from Pete Townshend of the Who, began cranking Marshall amps. The EL34's low-end frequency response is leaner and possibly meaner than that of the 6L6GC. With tight mids and crisp highs, the EL34 is more easily overdriven than the 6L6GC, providing softer crunch distortion.

The 6CA7 and KT77 are common substitutes for the EL34. The 6CA7 is the American designation for EL34, and some 6CA7 versions use beam power construction instead of a true pentode. Try a 6CA7 in place of an EL34 for more pronounced low-end frequency response with a little more headroom.

The tonal differences between the KT77 and EL34 aren't dramatic, but there is a significant structural difference: the KT77 doesn't have an internal connection at pin one like the EL34 and 6CA7 do. This can make it easier to install KT77s in certain American amps designed for the 6L6GC, yielding a more British sound. Amp manufacturers would often use lug 1 of the tube socket for other circuit connections incompatible with an EL34. Could this be why the MOV (Marconi-Osram Valve Co.) datasheet designates the KT77 as having an "international octal" base? If not, at least it helps us remember that there is a difference between the pinouts of the EL34 and KT77.

Far left: Photo by Tom Moberly **Below:** Photo by Tim Mullally / Dave's Guitar Shop
Above: Photo courtesy of Marshall Amplification





Photo by Tom Moberly

EL84

NOS electrical specs (Philips Data Handbook)
Classification by construction: *"A.F. Output Pentode"*
Filament volts: *6.3 V*
Filament current: *0.76 A*
Max plate volts and watts: *300 V, 12 W*
Max screen volts and watts: *300 V, 2 W*

Another early 1950s creation from the Netherlands, the EL84 was probably designed for affordability, and it helped make hi-fi stereo systems more accessible to the masses. The EL84 is commonly associated with the British sound of Vox amps. Its almost beam-like focus is bright and clear, with lots of top-end sparkle transitioning easily into tight overdrive distortion. The Beatles cut a deal with Vox in 1962, forever identifying the AC30 and its four EL84 power tubes with the early British Invasion sound.

The American designation for the EL84 is 6BQ5. Some 6BQ5 versions use a beam power construction instead of a true pentode one. There is no significant tonal difference between the 6BQ5 and the EL84. Many brands are labeled with both American and European designations (i.e., 6BQ5/EL84).



6550

NOS electrical specs (RCA Receiving Tube Manual)
Classification by construction: *"beam power tube"*
Filament volts: *6.3 V*
Filament current: *1.6 A*
Max plate volts and watts: *600 V, 35 W*
Max screen volts and watts: *400 V, 6 W*



Below: Photo courtesy of Chicago Music Exchange **Left:** Photo by Tom Moberly

Introduced in the mid 1950s and made in the United States, the 6550 met the demand in hi-fi audio for greater power and less distortion. Ampeg used six 6550s in their SVT ("Super Vacuum Tube") amp in the early 1970s, creating an extremely clean, round, and warm sound that would become a classic for bass players.

The 6550 is not commonly used in guitar amps, but in the 1970s the US distributor for Marshall sold many JMP guitar amps with 6550s instead of EL34s. (Supposedly, many EL34s were faulty by the time they arrived in the US, and the distributor concluded that the rugged 6550 had a better chance of surviving the duration of the warranty.)

The KT88 is a common substitute for the 6550. There's not a dramatic difference in tone between the two types. Used with guitar, the two tube types sound tight, bright, and powerful, with a slight overdrive crunch and relatively little compression compared to other tubes. They could be useful for maintaining clean sounds at high volume, or keeping the emphasis on preamp distortion instead of power-amp distortion.



> “Ampeg used six 6550s in their SVT amp in the early 1970s, creating an extremely clean, round, and warm sound that would become a classic for bass players."



Tubes and Valves: Today and Tomorrow

These days manufacturers from all parts of the world design amps around both traditionally British “valves” and American “tubes,” recreating classic tones while meeting the demands of newer musical styles. Why are so many guitarists still crazy about tube amps? I think their ongoing popularity is largely due to a raw beauty and warmth of tone that’s hard to describe—but it feels so good!

Kurt Prange (BSEE) is sales engineer for Amplified Parts (amplifiedparts.com) in Tempe, Arizona. Kurt began playing guitar at the age of nine in Kalamazoo, Michigan. He is a guitar DIY’er and tube-amp designer who enjoys helping other musicians in the endless pursuit of tone.

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Easy Does It

BY BRADY SMITH



Right: The looper: so easy, a baby can use it.

Here is what I know. After three weeks on the road, somewhere over the Atlantic Ocean, I'm tired. Setting up and tearing down, loading in and loading out, staying up until morning night after night. Walking around foreign countries, looking for that morning brekkie or good coffee spot in strange towns, trying not to miss anything. There's a cost to doing as much as possible and having so many choices: energy, a currency I find to be in shorter supply with each passing birthday.

So where am I going with this? How do curmudgeonly thoughts on aging and exhaustion tie into a column about guitar pedals?

Do more by doing less. Easy. Loopers, man. Loopers. The most unglamorous of guitar pedals. Superior practicality and no shine, no gold, no sparkle.

Why would I want to waste energy and focus on turning things on and off if I really just want to play music and enjoy that moment? Watching someone struggle to turn a simple device on and off over and over again sounds like painful performance art. But loopers make it easy.

Several different devices claim the name "looper." Here I refer not to digital recorders that let you layer parts, but "true bypass loopers" or "switchers" that create alternate pathways for your signal (usually the shortest and most unaffected between your guitar and amp) while providing remote on/off pedal switching. They also permit effect loops—a group of two or more pedals that can be activated by a single on/off switch.

The overpopulated pedalboard. As my pedal collection has grown over the years, so has my pedalboard. At times there was no justification for its size and weight—I had it, so I was going to use it! Nothing went to waste. I was going to work that phase shifter and ring mod into a song *somewhere*. As the board grew, its spacing and arrangement got weirder and more challenging. My ability to turn a pedal on and off became less important than having an additional two or three effects. By the time I discovered loopers, I was in dire need of one, yet I resisted for a long time. Maybe because they have no allure to make me a louder or weirder player. They're about pure practicality within an impractical profession.

I started with the basic single-channel looper, commonly used to switch multiple pedals on and off via a single switch, or to reduce potential signal variation when using older or buffered-style pedals. Simple and easy.

More channels, more possibilities. Then I moved on to three-, four-, and five-channel switchers. Made sense—I could put all my drive pedals in the upper-right corner of the board in any arrangement and control them from the linear switch layout at the front of my pedalboard.

Even if a pedal came unplugged, everything else still worked. The show went on.

I then tried an additional five switcher, plus a two switcher for my remaining pedals. Every on/off switch lived at the front of my board in a neat row, while the actual pedals reigned in chaos, scattered every which way, patch cables and power tangled in a fight to stay plugged in. But even if a pedal came unplugged, everything else still worked. The show went on.

Most of what I'd used up to that point I made myself—there's a strong DIY market for true-bypass loopers, with plenty of options to fit your channel and space needs.

But then. Oh, but then!

Dreams come true: nonlinear loopers. Then I discovered the world of nonlinear, buffered or unbuffered, pre- or post-gain, stereo-out loopers, and the options became endless. Companies such as the U.K.'s GigRig and Denmark's Carl Martin are making dreams come true. Their switchers allow you to change combinations *and* orders of effects, assigning each channel a different number of effects. Say you've got your overdrive pedal in loop 1. You can assign it to channel 1 solo. And then assign it to channel 2 along with whatever else is in that loop (another drive, maybe). Then assign it to channel 3 along with whatever's there. And everything is selectable from one stomp, one on/off switch.

GigRig has expanded possibilities even further by adding post- and pre-gain options to each channel. For example, you can use a single drive pedal for loops 1 through 5, but vary the amount of pre and post gain on each channel, effectively creating five different drive channels from one pedal. That's what sold me. So simple. So smart.

This isn't an endorsement of any particular company or product—just the idea that smarter is better than harder. You can refine your pedal system to banish mid-set tap dancing, letting you concentrate on your performance. True, these loopers add weight to your board, but I find the tradeoff to be worth it. And now maybe I can hold onto some of that precious energy, looking for the next thing to complain about.



BRADY SMITH *is the cofounder of Old Blood Noise Endeavors and the Coffee & Riffs video series, as well as a part time guitar tech. Despite his deteriorating posture, he has a strong affinity for Jazzmasters and Aluminum necked guitars. And coffee. And sleep.*

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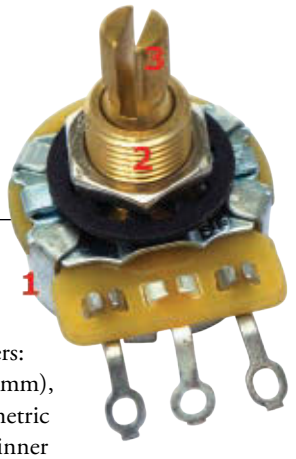
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The Trouble with Tribbles

BY DIRK WACKER



If you're a Trekkie like me, you instantly know what my headline refers to: "The Trouble with Tribbles," episode #44 from the original *Star Trek*'s 1967 season. In our shop, we call potentiometers ("pots") tribbles because those cute little rascals can cause enormous trouble. So here are some guidelines to help you avoid ending up like Captain James T. Kirk in this iconic episode.

Almost all electric guitars have one or more pots to control volume and tone, or for such special uses as blending two pickups. Unfortunately, it's usually not a question of whether a pot will fail—only when. Pot problems can range from crackling to non-responsive controls, or even a dead guitar. Sometimes noisy pots can be cleaned or repaired, but often the only remedy—especially with cheap factory pots—is to change them.

Changing a pot isn't difficult—it's usually just a matter of locating an identical part and duplicating the original solder connection. But I get at least five emails a day from guitarists who aren't sure how to determine the correct part for their needs. We'll shed some light on that, but first, let's look at the parts that make up a pot.

Pot anatomy. Let's be sure we're using the same terminology. **Photo 1** shows the main parts of a typical pot. As you can see, the part names are far from standardized.

1. The casing (also called housing, case, body, or enclosure).
2: The bushing (also called threaded collar or shank).
3: The shaft (occasionally called top).

There are other parts (terminals, baseplate, nut, washer, etc.), but let's focus on these three main ones. When seeking a replacement pot, sometimes the guitar model name is all you need. For example, searching "vintage Strat" will probably locate the correct pots. But in other cases, you must know additional parameters, namely: measurement type (U.S. inch vs. metric), nominal resistance, casing diameter, bushing length and diameter, and shaft type and diameter.

Parallel universes. Most U.S.-made guitars (like Fender, Gibson, and PRS, to name a few) use U.S. pots measured in inches. Meanwhile, most guitars produced outside the U.S. (Epiphone and Ibanez, for example) employ metric pots. Some companies (like leading American pot manufacturer CTS) only make U.S. inch pots, while other brands, such as Alpha and Bourns, build both types, so be careful when choosing replacements.

Nominal resistance. This is often referred to as the pot's "value," with 250k, 500k and 1M as the standards for passive guitars, while and pots with values between 10k and 50k are common in active circuitry. The resistance is usually stamped on the casing or baseplate. If you can't find the info, remove all wires from the pot and test it with a standard digital multimeter (DMM) set to resistance. You may also be able to identify the pot value from a wiring diagram on the manufacturer's website.

Casing diameter. Usually only two pot sizes are used in guitars: big ones (standard) and small ones. The standard big size is .937" (approximately 23.8 mm) and 24 mm for metric pots. The small size is .650" inches (about 16.5 mm) and 16 mm for metric. Your measurements can indicate whether you have a metric or U.S. inches pot.

Bushing length and diameter. There are three common bushing lengths, often referred to as short, semi, and long. Short pots are usually installed through a pickguard or metal control plate, as on Strats and Teles. Their size is .250" (about 6.35 mm), and 6 or 6.5 mm in metric. Semi pots are for installation through wood, as on an SG or PRS. These are .375" inches, or 3/8" (roughly 9.5 mm), and 10 mm in the metric version. Long pots are used with thick wooden tops, like on a Les Paul. These are .750" (about 19.05 mm) and 20 mm in the metric version.

Luckily, there are only two common bushing diameters: 3/8" (about 9.5 mm), with a 10 mm metric equivalent. A thinner version (often found on pots with the smaller casing) is 0.31" (8 mm). The metric versions are 8 mm as well.

Shaft type and diameter. There are two shaft types: split-shaft (for push-on knobs, as on a Stratocaster) and solid-shaft for knobs with a set screw (like a Telecaster's dome knobs). On U.S. inch pots, the typical split shaft's diameter is .236" (about 5.95 mm) with 24 "fine-knurled" teeth, and the metric version is 6 mm with 18 "coarse knurled" teeth. Careful when replacing push-on knobs for split-shafted pots—you can't push knobs made for 18 teeth onto shafts with 24 teeth, and vice versa. (You can fine-tune the fit by squeezing the shafts together slightly or spreading them further apart.) A U.S. inch solid shaft is .250" (approx. 6.35 mm) while the metric version is 6 mm.

Pot-mounting hardware. Finally, to install pots into a guitar or pickguard, just follow these steps: Remove all the hardware. If you need to adjust the height of the pot in the pickguard or the guitar, thread on a spare hex nut to use as a spacer. Then install the lock washer. Insert the pot into the pickguard or guitar. Place the washer on the bushing. Secure the pot with a hex nut. *That's it!*

Next month we'll explore a cool mod for Les Paul/SG/335 lovers. Until then, live long and prosper ... and keep on modding!



DIRK WACKER *lives in Germany and has been a guitar addict since age 5. He's also a hardcore DIY-er for guitars, amps, and stompboxes and runs a website on the subject (singlecoil.com). When not working at his guitar workbench, he plays country, rockabilly, surf, and flamenco. Contact him at info@singlecoil.com..*

Photo courtesy of singlecoil.com

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Fattening Up a Fender Super-Sonic 60

BY JEFF BOBER



Right: Fender issued two versions of the Super-Sonic 60. The original version (shown here) was released in 2005. Fender revised the circuit for the 2009 version.

Q: **Hi Jeff,**

I have an older Fender Super-Sonic 60. I really like its sound, but I find the clean channel's Vibrolux setting a little too thin. Is there a way to fatten it up? Also, on the second/OD channel, I find I need to crank the bass knob all the way and turn the treble knob to only 2 or so to get a useable sound. Is there a way to make the burn channel's "noon" settings more balanced so I can get a warmer sound?

Thank you,
Pat Edwards

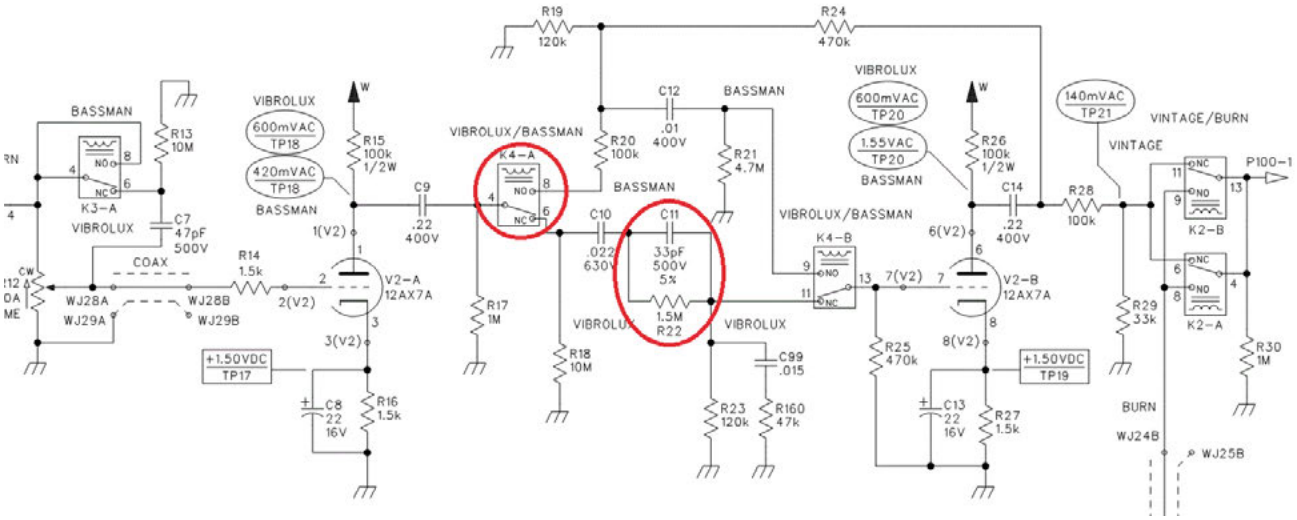
A: **Hi Pat,**

Thanks for writing. There are actually two versions of the Fender Super-Sonic amp: one from 2005, and another from 2009. The circuitry was improved for the 2009 model. (Yes, we all have bleak memories of the "improvements" Fender made during their CBS era, but these revisions really did upgrade the amp's sound and performance.)

I've already written a *Premier Guitar* column on the two versions of the Super-Sonic amp and the changes needed to update the earlier model [Modifying an Early Fender Super-Sonic 60, Aug. 2014]. No matter which version you have, your modification requests are above and beyond what I previously covered, but with both columns in hand you should be able to bend the Super-Sonic to your will. So let's get started!

First, let's address your complaint about the Vibrolux setting. This is part of the amp's vintage channel, which is switchable between Vibrolux and Bassman circuit simulations. As the schematic excerpt in **Fig. 1** shows, relay K4-A in Vibrolux mode routes the signal from pin 4 to pin 6 through C10, and then through the C11/R22 resistor/capacitor network. Here, I believe, is where the signal becomes too thin for your liking. *Continued on p. 58*

Fig. 1



WARNING:

All tube amplifiers contain lethal voltages. The most dangerous voltages are stored in electrolytic capacitors, even after the amp has been unplugged from the wall. Before you touch anything inside the amp chassis, it's imperative that these capacitors are discharged. If you are unsure of this procedure, consult your local amp tech.

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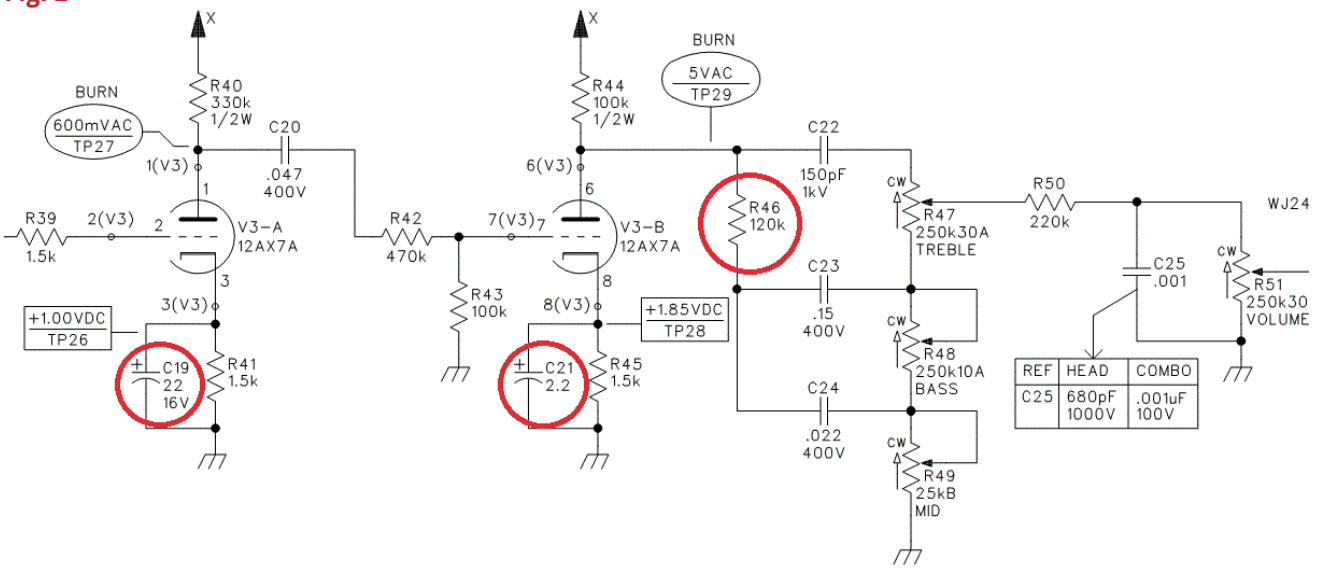
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Fig. 2



We all have bleak memories of the "improvements" Fender made during their CBS era, but these revisions really did improve the amp's sound and performance.

To correct this, try removing C11. This capacitor passes highs across R22, and the ratio of highs passed relative to the total signal may be responsible for the sound you perceive as "too thin." Another possibility is that the signal is overly attenuated by R22, making the amp, for lack of a better term, wimpy. If this is the case, try decreasing the value of R22. Start with a 1M resistor and see how you like it. If that doesn't work, go lower. If you achieve a good, full sound, but one that could still use a bit more high end, try different values for C11. You might even replace R22 with a simple jumper wire, but be aware that if you do, C11 will no longer affect the sound. Anyway, this is a great spot to tailor the Vibrolux setting, but ultimately, it's all about trial and error to satisfy your personal taste.

Now that you can tweak the Vibrolux setting to taste, let's address your other concern. The amp's second channel is labeled burn, but I guess we need to balance that burn, so let's modify this channel's tone stack.

We focus on R46, as seen in the schematic excerpt in **Fig. 2**. This part governs the amount of signal passed to the bass and middle controls and is sometimes called the slope resistor. The stock value is an unusually large 120k. I suggest lowering the value to 82k to see if this brings you closer to the balance you desire. You can certainly go lower—68k, 56k, or even 47k—but be aware that this not only brings in more lows and mids, but also changes the curve, or "voice," of the tone stack. At some point you need to settle on a compromise where the amp sounds good, as opposed to having your controls at some arbitrary midpoint setting. The bottom line is to make the amp sound the way you want, not where the controls must be set to accomplish this.

Another possible modification: Reverse the position of the cathode caps (C19 and C21) in the two gain stages prior to the tone stack so that C19 is 2.2 µF and C21 is 22 µF. This may clean up the overdrive at very high settings in addition to feeding the tone stack stage a fuller signal from which to work.

Well, there you have it. I hope these tweaks make your Super-Sonic even more sonically super.



JEFF BOBER *is one of the godfathers of the low-wattage amp revolution. He co-founded and was originally the principal designer for Budda Amplification, though he launched EAST Amplification (eastamplification.com) in 2010. You can catch his podcasts at ampsandaxescast.com or email him at pgampman@gmail.com.*

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aer-amps.com

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This 80-watt amp packs three independent channels into its compact enclosure. It features two XLR jacks with phantom power, 3-band EQ for each channel, and onboard digital reverb.

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schertler.com

3
PHIL JONES PURE SOUND
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This ultra-compact 100-watt amp is outfitted with two 5" PJB NeoPower speakers, two channels with independent 3-band EQ, and an aux input. It comes with a padded gig bag.

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philjonespuresound.com

4
ACOUSTIC
A1000

Boasting four inputs for instruments or vocals, this 2x8 neodymium combo features discrete 3-band EQ for each channel and two programmable digital-effect processors with LCD readouts.

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acousticamplification.com

5
FENDER
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fender.com























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AC-60

This 2-channel acoustic amp with 30 watts per channel includes a mic/line input with phantom power, two 6 1/2" speakers, anti-feedback controls, and stereo/multiband chorus and delay/reverb effects.

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7
FISHMAN
Loudbox Performer

This 180-watter has independent 3-band EQ for each channel, feedback-fighting controls, onboard digital effects, a kickstand for a 50-degree tilt, and phantom power.

$769 street

fishman.com

8
GODIN ACOUSTIC SOLUTIONS
ASG-150

This 150-watt amp resides in a natural-finish wood enclosure. It boasts a compression tweeter and 8" speaker, three inputs with independent EQ, balanced XLR inputs with phantom power, and a notch filter.

$1,079 street

godinacousticsolutions.com

9
PEAVEY
Ecoustic E110

This 100-watt bi-amplified system houses a 10" driver. Its features include 9-band graphic EQ on channel one, a notch filter and phase inverter for feedback control, and channel-assignable reverb, chorus, and delay.

$499 street

peavey.com

10
MARSHALL
AS50D

This 50-watt combo houses 8" Celestions, a phantom-powered mic channel, independent EQ per channel, digital chorus and reverb, and an anti-feedback notch filter.

$399 street

marshallamps.com

Quick Hits

ELECTRO-HARMONIX

Good Vibes

By Charles Saufley



Electro-Harmonix has built some amazing and affordable phasers, flangers, chorus, and vibrato pedals over the years. But the Good Vibes is the company's first accessibly-priced, photocell-driven Uni-Vibe-style modulation pedal.

Like so many great EHX pedals, Good Vibes is designed for probing the outer reaches of an effect's potential. There's an expression-pedal jack (why doesn't every 'Vibe-inspired pedal have one?), and the switch for assigning it to speed or intensity is right there with the volume, intensity, speed, and chorus/vibrato controls. That simple design gesture significantly enhances the pedal's real-world utility and expressive potential.

At lower speed and intensity settings, chorus mode deliciously reveals its EHX modulation pedigree. It's rich, fat, and smooth sounding—perfect for animating chord arpeggios and bend-heavy fuzz leads. At higher intensity levels, though, it sacrifices some of the soft wave contours that can make an optical circuit so appealing. The upside to these harder-edged modulations is that expression-pedal sweeps between high and low intensity become uncommonly dramatic. With a biting fuzz in the mix and an amplifier with a lot of low end, the effect can be uniquely deep and dizzyingly effective.

TEST GEAR *Fender Jaguar, DeArmond JetStar, silverface Fender Bassman, blackface Fender Tremolo*

RATINGS

$137 street, ehx.com

Tones	
Ease of Use	
Build/Design	
Value	

PROS Control layout invites tweaking. Superb expression-pedal functionality. Reasonably priced. Clean, solid construction.

CONS High intensity settings have a very on/off, pulsating quality. Vibrato can sound thin at lower settings.

CLICK HERE TO HEAR *this pedal at premierguitar.com/aug2015*

EDEN

MicroTour

By Rich Osweiler



Eden is known for quality bass gear, but usually their products aren't quite as compact as the MicroTour mini bass amp. Weighing in at just 2.5 lbs., the 2-watt MicroTour looks like a Mini-Me stack. (Its dimensions are 12" x 5.3" x 3.7".) You can power it with either a 15V adaptor (not included) or eight AA batteries. Features include a single 4 1/2" whizzer-cone speaker, an 1/8" headphone jack for silent practice, and simple volume and tone controls.

I plugged in a Fender P, set the MicroTour's tone knob at noon, and pushed the volume to 10 o'clock. The MicroTour delivered enough juice for pleasant, discernable volume that worked for riffing, but was quiet enough not to bug your family or co-workers down the hall. Don't expect classic Eden tone or big volume from this little box—it's just a plastic enclosure with a small speaker and 2 watts of power. (Push the volume beyond 2 o'clock and things get buzzy.) But with the volume around noon, MicroTour lets you to hold your own in a living room jam with your dreadnought-toting buddies.

Portability? Check. The MicroTour fit perfectly into the topside compartment of my Ritter gig bag. This fun and cool-looking little amp lets you power up your bass just about anywhere. At 60 bucks, why not?

TEST GEAR *2001 Fender Precision*

RATINGS

$59 street, edenamps.com

Tones	
Ease of Use	
Build/Design	
Value	

PROS Ultra-small. AA battery power permits playing anywhere.

CONS Not enough volume for even small gigs.

CLICK HERE TO HEAR *this amp at premierguitar.com/aug2015*

EPIGAZE AUDIO

Neutrino

By Jason Shadrick



As any environmentally minded pedal junkie knows, signal loss is as real as climate change. Epigaze Audio's Neutrino combines a high-quality buffer with a boost and then throws in a few smartly designed features on top. The pedal offers dual outputs (one is buffer only), two impedance settings (for all you vintage fuzz lovers), and a "body" switch. As a true boost should, the Neutrino doesn't kill you with gain. There was plenty of heft without the fizzy high end.

After placing the Neutrino at the front of my signal chain, I was almost embarrassed to discover how much high end I was losing from all my pedals and cables. Even without a temperamental Fuzz Face in the mix, the impedance settings were fun to mix and match along with the body switch (which acts as a bass cut). Overall, the transparency of the boost circuit was impressive and rarely did I find myself turning the knob past noon. My favorite setting was with the imp switch in the down position and the body switch off—a great bluesy growl. Buffers can be boring, but the mad scientists at Epigaze have created an essential, but sometimes overlooked, tool for improving your tone.

TEST GEAR *Fender Stratocaster, Fender Deluxe Reverb, Benson Monarch*

RATINGS

$149 street, epigazeaudio.com

Tones	4½
Ease of Use	4½
Build/Design	4½
Value	4½

PROS Impressively transparent. Packed with useful features.

CONS None.

CLICK HERE TO HEAR *this pedal at premierguitar.com/aug2015*

TC ELECTRONIC

PolyTune Clip

By Charles Saufley



Few guitar accessories factor into my daily playing rituals like the humble clip-on tuner. There's always one around my place, and they're integral to my practicing and writing. But for my pedalboard, I've come to love TC Electronic's PolyTune tuners. Their easy-to-read displays and polyphonic functionality always provide tuning peace of mind. So there's something doubly reassuring about having the same power perched, plain to see, right at the end of your headstock.

Like other PolyTune models, the Clip lets you strum all six strings and see which are sharp or flat—a fast polyphonic twist that eases onstage panic when you can't immediately identify an offending out-of-tune string. The Clip is fast and accurate for both polyphonic and single-string tuning.

While the Clip's tuning performance is impressive, it does add 1 ¼" to the length of your guitar if placed at the end of your headstock—a slightly less obtrusive design would be nice. Also, a swiveling—rather than swinging—joint would make it easier to align the readout with your line of sight. Those quibbles aside, the Clip is ace, and given TC's track record of product evolution, we can expect to see even more refined versions before long.

TEST GEAR *Gibson J-45, Squier Jazzmaster*

RATINGS

$49 street, tcelectronic.com

Ease of Use	5
Build/Design	4½
Value	4½

PROS Polyphonic functionality. Fast and accurate. Bright, bold readout.

CONS Lack of swivel joint can make adjustment awkward.

IBANEZ
EKM10T

By Jason Shadrick

It's easy to stereotype Ibanez as the creators of the sultry shred machines seen in the hands of Steve Vai and Joe Satriani, but doing so ignores the company's long history of creating fine semi-hollow axes. George Benson, Pat Metheny, and John Scofield have relied on the Japanese company's beautifully crafted archtops for decades. Those adventurous sensibilities have been passed down to a new generation of jazz-funk players, including Soulive guitarist Eric Krasno, who collaborated with Ibanez to create his signature EKM10T.

Krasno's musical ethos is as rooted in the sophisticated blues-bop of Grant Green as much as the hard-driving funk of Sly Stone and Tower of Power. To cover such a broad musical landscape, he needs a guitar equally comfortable with smoky minor blues and ripping "Maggot Brian" leads.

Uptown Funk

The Chinese-made EKM10T clings to classic style without coming off as a tired rehash. Visually, it's nearly identical to its pricier predecessor, the EKM100. Its appointments and attention to detail are remarkable for an instrument that streets for under $1,200. At first grasp, the guitar just feels solid—it's obviously a tool for hard-working players, not a watered-down version of a marquee signature model. Straight out of the box, it was ready for nearly anything I could throw its way.

As I slipped into a funky East Bay groove, the frets felt smooth and polished. While the neck is a bit larger than I tend to prefer, it's immensely fast and comfortable—a longtime Ibanez hallmark. Krasno requested an Ibanez VBS80 vibrato for some retro wobble. The bar's tension is



perfect for expressive playing, but not so tough that you need to fight to get some movement. One minor gripe: The excess ringing that emanates from the section of string between the bridge and the vibrato is distractingly loud when unplugged. A bit of foam would be a quick studio fix, but it rings through a bit when plugged in as well.

Sco to Go

Our review model came loaded with Ibanez's Super 58 humbuckers, also found in the Scofield, Metheny, and Benson models. (It's testimony to each player's touch that such a wide variety of sounds have come from the same pickups!)

To hit a variety of tonal touchstones, I tested the guitar with both a reissue Fender Deluxe Reverb and a Vox AC15. Through the Fender, I could get a biting (but not shrill) rhythm sound on the bridge pickup. It had enough presence for a Jimmy Nolen "chicken scratch," but lost a bit of low-end muscle when I moved to the bass strings. The vintage-style output was a great match for the Deluxe's blackface 6V6 vibe.

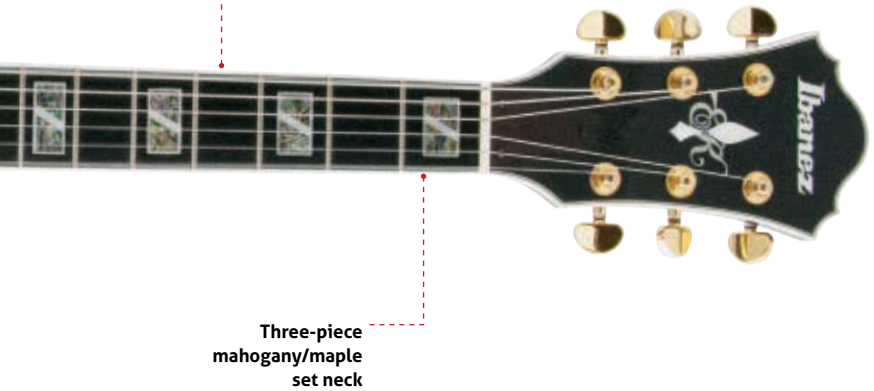
It's difficult to plug a 335-style guitar into a Vox and not try and cop some Sco licks. I was able to dial in just enough dirt to let the bridge pickup blossom into a clear and robust lead tone. Even complex jazz chords neck-deep in ♯9s and ♭13s come through with enough presence to impress the most jaded jazz-rocker.

The neck pickup is the jazzer's bread and butter. I found the neck Super 58 a bit darker than expected and sought a brighter amp setting for balance. After a bit of tweaking, I obtained a beautifully warm, soft tone that could easily become my go-to for solo guitar brunch gigs. I've always admired Larry Carlton's compressed, singing lead tone, so I added a Truetone Route 66 overdrive/compressor to the mix. With added grit, squish, and EQ, I got pretty close to Mr. 335's namesake setup.

I obtained a beautifully warm, soft tone that could easily become my go-to for solo guitar brunch gigs.

The Verdict

In an ever-more-crowded field of pro-level guitars under $1,500, the EKM10T stands out as a highly worthy option for players who dig the timeless lines and mojo of the 335. While it doesn't come with fancy gizmos or over-the-top adornments, it's a tastefully designed workhorse that can fit myriad situations without seeming dated or out of place. The pickups lean a bit more towards blues and funk than jazz, but even with its slight shortcomings, it's a hell of an axe for the money.



CLICK HERE TO WATCH A DEMO of this guitar at premierguitar.com/aug2015

RATINGS

Ibanez Eric Krasno EKM10T

$1,199 street
ibanez.com

Tones	4.5
Playability	4.5
Build/Design	4.5
Value	4.5

PROS Amazing build quality.

CONS Unbalanced neck pickup.

FENDER
Hot Rod DeVille ML 212

By Ted Drozdowski



Players who like pedals will love Fender's new Hot Rod DeVille ML 212, a 60-watt, 6L6-powered 2x12 combo designed in collaboration with session ace Michael Landau. Design changes to satisfy Landau's predilections make this a very different DeVille—and a fantastic platform for effects.

Hot Rod DeVille ML is part of Fender's "Inspired By" series, a product family based on real-world modifications to Fender gear by pro players. Landau, a tone colorist, wanted his amp to be a near-blank canvas for his pedals. To Landau, master volume controls sound "artificial." He's also no fan of channel switching, contending that an EQ setting for one channel doesn't always work for a second channel using the same tone circuit. So instead of switching between two channels, the ML 212 enables switching between two volume settings on a single channel.

2015 vs. 1966

Lacking master volume, the DeVille ML 212 recalls vintage Fender designs. Its dual 6L6 power section has been modified for extra headroom, and with 60 watts on tap, it has enough horsepower for any stage. There's a bright switch for the first volume control, and a boost setting for the second volume. The included footswitch allows selection of each volume and the boost. The speakers are 70-watt 12" Celestion V-Types. Meanwhile, the amp's internal variable bias control means it's easy to re-bias the amp after swapping tubes.

I auditioned the ML 212 with a humbucker-equipped Fender Esquire reissue, a '73 Strat, and a '68 Les Paul Standard. I also set the ML 212 alongside my 1966 blackface Fender Twin Reverb with vintage Celestion speakers. As much as I love my Twin, the newcomer kicked its butt in versatility and tonal



purity, though they tie for headroom and fast response. The ML 212 was quieter, too (though after 48 years of service, the Twin is entitled to a little sonic dyspepsia).

I went for Landau-like settings, or at least my perception of them: volume controls at 3.5 and 5, bass at 6, mids at 5, treble at 7, reverb at 3, and presence at 4.5. Here the amp sounded sweet and snappy.

Strat-isfying Results

Landau's signature guitar is a Strat, so no surprise that the ML 212 and my well-worn single-coil critter took to each other. In the first volume mode, individual notes rang with more sustain and definition than on my old Twin. (Sorry, kid—I still love ya!) While the amp is voiced to cater to the bridge pickup in particular, I loved its lush, warm neck-pickup sound. My bridge pickup was bright and cutting, but less piercing than on my Twin at similar levels. The brightness control's effect seemed miniscule here, though it lent high-end focus and made the output seem slightly less compressed.

The amp's second volume mode provides a louder, prouder version of the same sound. That's probably what a lot of us want in a channel-switching amp: more of what we already like. Kudos to Landau and Fender for realizing this simple vision.

The benefits of the boost function were modest to my ears, though I noticed more subtle harmonic bloom on each note. It's debatable how perceptible this would be playing live with a band, but it sounded lovely in my practice room, and probably would in the studio as well.

Super Effect-ive

Fender's boast that the DeVille ML is a superior pedal platform is justified, especially when single-coils are involved. Whether I threw the crunch of a MW FuzzyTone, the purr of a Tube Screamer, or the roar of a Big Muff into the mix, the DeVille ML's fundamental character remained intact. Modulation effects were especially articulate, and delay—well, I love delay, and I *really* loved adding it to the DeVille's classy voice.

Results with the Les Paul were quite different, and occasionally disappointing. Humbuckers made the amp less smooth and more snarling, probably due in part to the Celestions and the amp's knack for accentuating sustain. Crunchy neck-pickup rhythms sounded tough, but for most other applications, the Gibson/DeVille tandem was less nuanced. The boost didn't add the same harmonic special sauce that it did with single-coils, and the Les Paul sounded piercing in the bridge position, though I could partially compensate with the Gibson's tone knobs. (Interestingly, my Esquire with a late '60s Gibson humbucker sounded more complex. Maybe the DeVille ML just doesn't like mahogany.)

The Verdict

The DeVille ML 2x12 is beautifully built, thoughtfully conceived, and voiced perfectly for single-coils. It makes using effects feel like working with paint, providing a transparent backdrop for bold colors. The volume-level switching is a brilliant solution for guitarists who simply want "louder"—not "different"—when they switch channels. If you love vintage-style single-coil tones, the ML 212 may be the modern Fender amp of your dreams. It's an absolute bargain compared to boutique alternatives.

CLICK HERE TO WATCH A DEMO of this amp at premierguitar.com/aug2015

RATINGS

Fender Hot Rod DeVille ML 212

$1,099 street
fender.com

Tones	
Ease of Use	
Build/Design	
Value	

PROS Sturdy build. Timelessly gorgeous single-coil tones. Smart and easy volume switching. A perfect canvas for effects.

CONS Not as clear with humbuckers.

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ORANGE
OB1-500

By David Abdo

Like 1960s British fashion, Orange amplification has always stood out from the crowd. And the lively looks of their cabinets and heads are a physical manifestation of the Orange sound. Orange's new OB1 Series was inspired by bassists who use two amps to get their clean and dirty tones, and to achieve this dual-prong approach, the streamlined amps integrate class-AB technology with a flexible overdrive section. There is a 300-watt model in the series, but our attention was directed at the more powerful OB1-500.

Dig, If You Will, the Pictures

One of the ways some bassists produce thick, distorted tones is by splitting their signal and running into two amps—one clean head and an overdriven guitar amp. The OB1-500 is inspired by this philosophy, yet packs everything into a single 2U rackmount chassis that also stands alone on burly rubber feet.

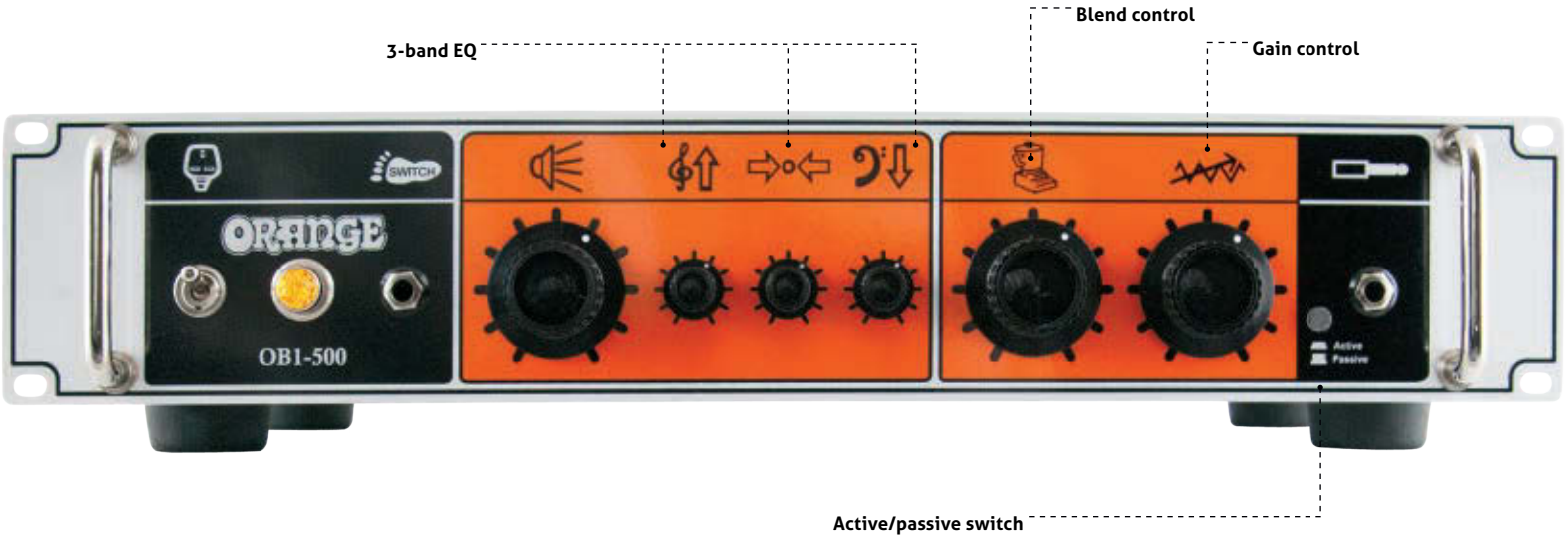
When you plug into the 500-watt OB1-500, it splits your bass signal into two separate paths: One amplifies the clean sound, the other seasons it with upper-harmonic distortion. Gain and blend controls balance the intensity and level of the distortion before the combined signal is sent through a simple but robust EQ.

Visually, the OB1-500 reflects Orange's familiar styling. The amp is suited in white powder coat, painted in the company's colors, and crested with their iconic logo. The front panel is labeled with clever and easily discernable images like the footprint indicating the footswitch jack and a speaker symbol representing the volume. Creativity points go to Orange for the blend and gain knobs, respectively signified by a kitchen blender and a snake and arrow.

Orange Jam

In my home studio, I paired the OB1-500 with an Epifani UL3 112 cabinet and three different basses—a Sadowsky Will Lee 4-string, a Fender Precision, and a Ritter R8 5-string. The OB1-500 was designed to deliver beastly bass tones, but one of the first things that actually caught my ears was the pleasing sound produced by the clean section. It didn't matter what bass I used: The amp conveyed a warm, defined voice that was responsive to my touch.

The EQ is an excellent problem-solver and small adjustments produced noticeable results. Bassists who rely on bridge-pickup sounds will appreciate the level of thickness and punch the bass control can add, as well as the mid attenuator's ability to dial in different dimensions of snarl. P-style players will appreciate how the OB1-500's treble dial works in conjunction with their instrument's tone control to transform the timbre from edgy to brooding.





I was able to sculpt a grinding clang with the Sadowsky that'll make your older brother pull out his Rush records.

Active instruments aren't exempt from the benefits of the OB1-500's EQ. The Ritter responded nicely to tonal tweaks from the amp, but what was equally impressive was how the OB1-500 could be left flat and not color the sounds shaped by the Ritter's sophisticated onboard preamp.

It's easy to plug in and play with the OB1-500, but I recommend spending some quality time experimenting with the gain and blend knobs prior to performance. Doing so will allow you to find the right mix of harmonic saturation and original signal to create tones from gutsy roars to synth-like sizzles—qualities I enjoyed on soloed neck pickups and the Precision. On top of that, I was able to sculpt a grinding clang with the active Sadowsky that'll make your older brother pull out his Rush records. There is overdrive aplenty available with this amp—from sublime to downright nasty—and the manner in which it interacts with the EQ offers multiple tonal personalities.

All the aforementioned characteristics shined onstage when I ran the amp at much louder volumes. Impressively, the OB1-500 stays ultra clean at high levels. Orange was wise to install an active/passive pad switch that was a major factor in keeping things from getting too hairy. This was evident when I paired the amp with a Bergantino HD212 and plugged in the Ritter R8. The rig combined warmth and presence while moving major air. I was able to lay a solid foundation with a horn band, and the amp transmitted Prestia-like 16th-notes with impressive immediacy.

I further explored the OB1-500 at a local jam night by pairing it with an '80s Peavey 4x10 and working the Sadowsky over rock tunes both sublime and absurd. The band smiled in unison when I dialed in a sound that came close to nailing Geddy's aggressive tone on *Permanent Waves*, though this quickly sparked several other attempts at Rush classics. I found that the OB1-500 was more than adept at handling a wide spectrum of musical styles.

The Verdict

It's relatively new, but Orange's OB1-500 should already be considered one of the company's standout offerings. It has an abundance of both clean and crass bass tones on tap, and while it might not completely placate the tube obsessed, the amp's all-analog signal path is a welcome alternative to today's class-D frenzy. Some might balk at the steep price, but the OB1-500's tonal rewards outstrip many of its contemporary counterparts. If you're seeking a responsive, powerful amp that gives a finger (or two, if you're in the U.K.) to modern amp design, the OB1-500 is certainly worth a spin.

CLICK HERE TO WATCH A DEMO of this amp at premierguitar.com/aug2015

RATINGS

Orange OB1-500

$899 street
orangeamps.com

Tones	4.5
Ease of Use	4.5
Build/Design	4.5
Value	3.5

PROS Very satisfying spectrum of drive tones. Great clean settings. Well voiced EQ.

CONS Might not appease disciples of classic tones. A bit pricey.

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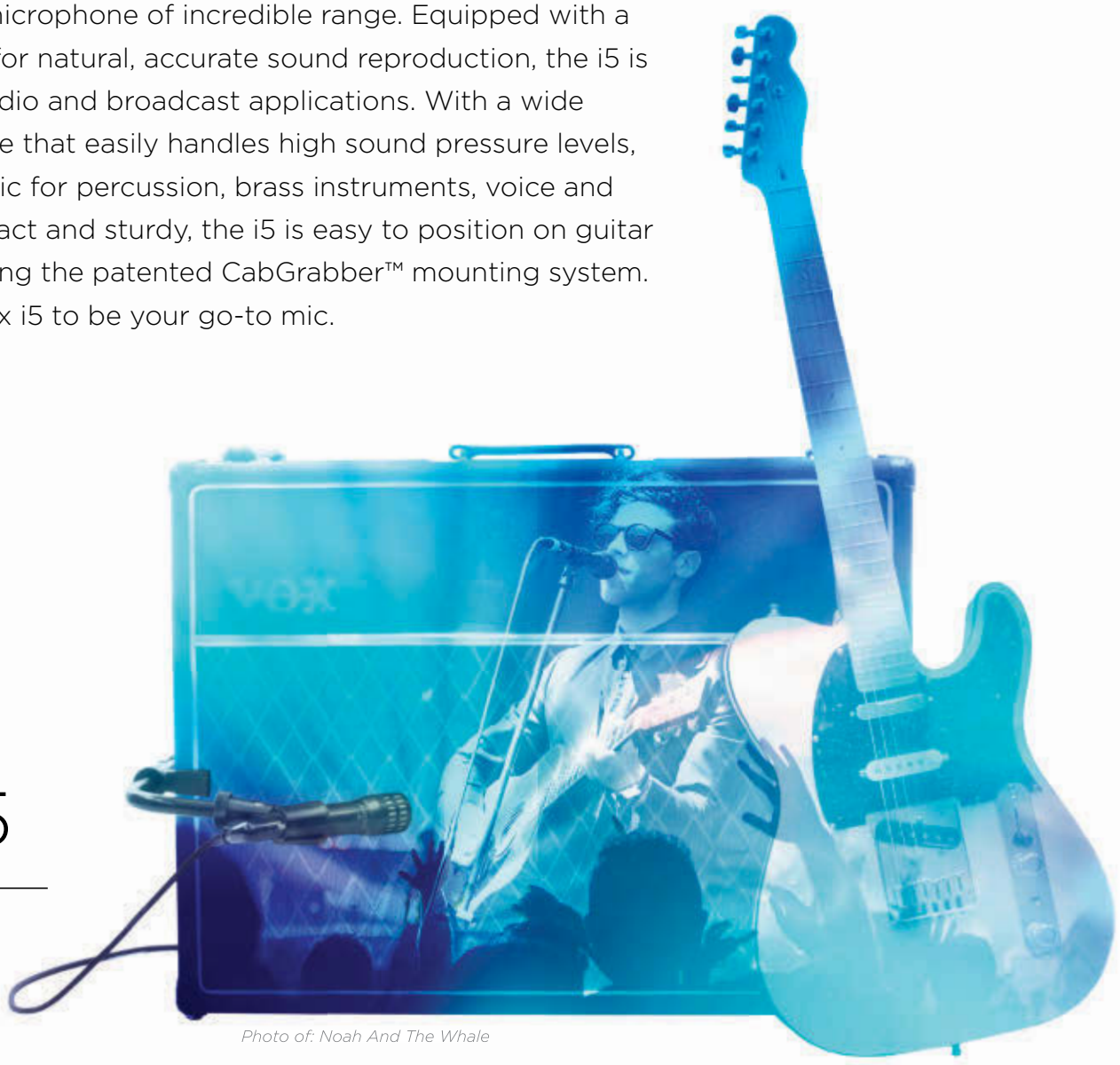


Photo of: Noah And The Whale

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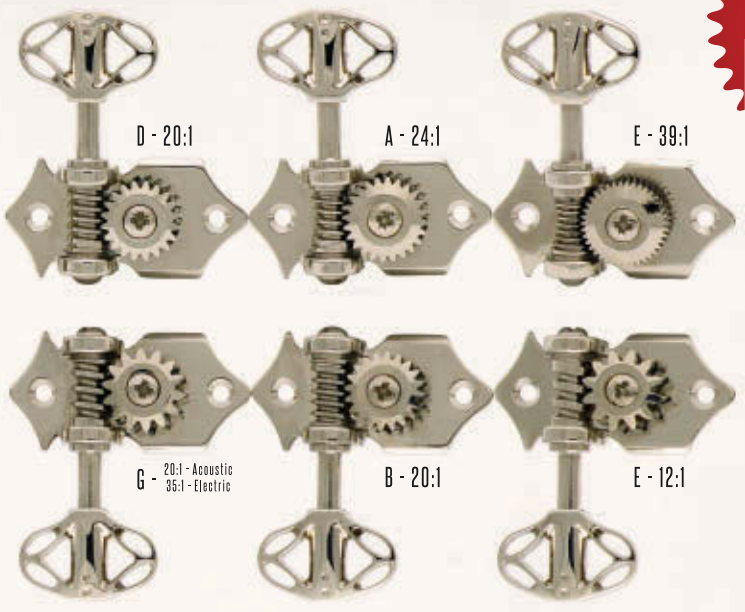
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MU-FX
Octave Divider

By Joe Gore

How cool is it to have Mike Beigel back in the stompbox game? Over the last 45 years, the M.I.T. grad, signal-processing visionary, and Musitronics (Mu-Tron) co-founder created some of the most imaginative guitar effects ever. Some were hits: His Mu-Tron III is widely considered the best envelope follower ever, and good luck finding a modulation effect as dramatic-sounding as Beigel's Bi-Phase. Other products foundered on their way to the marketplace, yet they provide further evidence of Beigel's special genius.

Beigel's latest venture, Mu-FX, has been reissuing classic Mu-Tron effects with modern updates. Their latest release is a revised Octave Divider, an octave-down effect paired with the Green Ringer ring modulator originally released by Dan Armstrong. (According to Beigel, the original Octave Divider was the first stompbox with two footswitches, which allowed you to toggle between the dual effect and octaver alone.)



Mu Redo

The 21st-century Octave Divider faithfully mimics the original's sound and functionality, and then some. Some Mu-Tron effects were larger than Latvia, but this one resides in a relatively compact 5.5" x 4" folder-aluminum enclosure. The revised circuitry employs modern surface-mount components, with the footswitches linked via ribbon connector. A detachable 12V adapter (included) replaces the original built-in power supply.

Sonically, the results are straight outta the '70s. The octave effect tracks well, though it's strictly monophonic, and it requires clean, careful picking and muting for optimal results. Note that this is an analog effect created via waveform modulation, not a digital transposition. The tone is warm, fat, and a bit synth-like, as opposed to the crisper, more acoustically accurate transpositions of modern pitch-shift pedals. (Usually that's a plus—you get the mass and depth of the lower octave without latency or high-end clutter that can compete with your dry signal. Just be aware that it sounds nothing like, say, a DigiTech Whammy Pedal or Boss Harmonist. It's also a lot noisier.) Dedicated controls trim treble from the bass signal and set its level. A "stabilize" switch supposedly optimizes the tracking for plucked strings, though I obtained equally good results regardless of its setting.

It's Not Easy Being Green

The other half of the equation is the Green Ringer circuit, itself "inspired" by the earlier Ampeg Scrambler. For many years I didn't get the Ringer. It doesn't generate the bold, clangorous tones you expect/fear when you hear the words "ring modulator"—it simply distorts a bit while adding a touch of harmonic anarchy. Like many players, I never found the effect sufficiently dramatic.

But at some point I realized that walloping the Ringer with an upstream booster yields far more exciting results. (As illustration, the audio clips embedded in the online version of this article feature the Octave Divider alone, and the effect preceded by either a clean JFET booster or dirty germanium one.) While the octave and ringer effects here have independent volume controls, you can't get the "slam" effect without an extra booster.

The original Octave Divider's solo button isolated the octave effect. The new version adds a select toggle, so you can solo either the octave or the ringer. Nice.

The two effects are easy to navigate once you master the knobs. But plan to spend some time getting up to speed, since some functions and labels are confusing. (Example: The tone knob does indeed affect the tone, trimming highs from the bass effect. But the adjacent bass knob regulates level, not tone.)

The Verdict

Mike Beigel's reimagined Octave Divider is the best kind of vintage reissue: one that adds convenience, modern construction, and meaningful extras without compromising the magic of the original sound, quirks and all. Unlike 40 years ago, we now have many ways to pair fat-sounding octave effects with wild, clangorous distortion, some of which yield more aggressive and dramatic results. Still, it's great to see this rare but influential effect resurrected in such a classy fashion.

CLICK HERE TO HEAR this pedal at premierguitar.com/aug2015

RATINGS

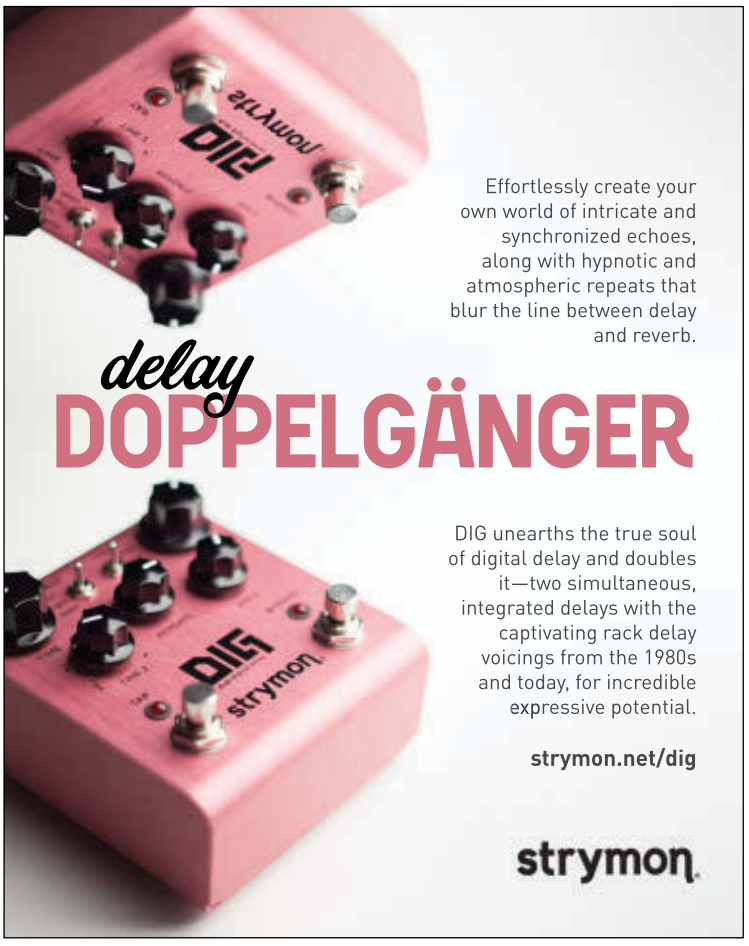
Mu-FX Octave Divider

$359.97 street
mu-fx.com

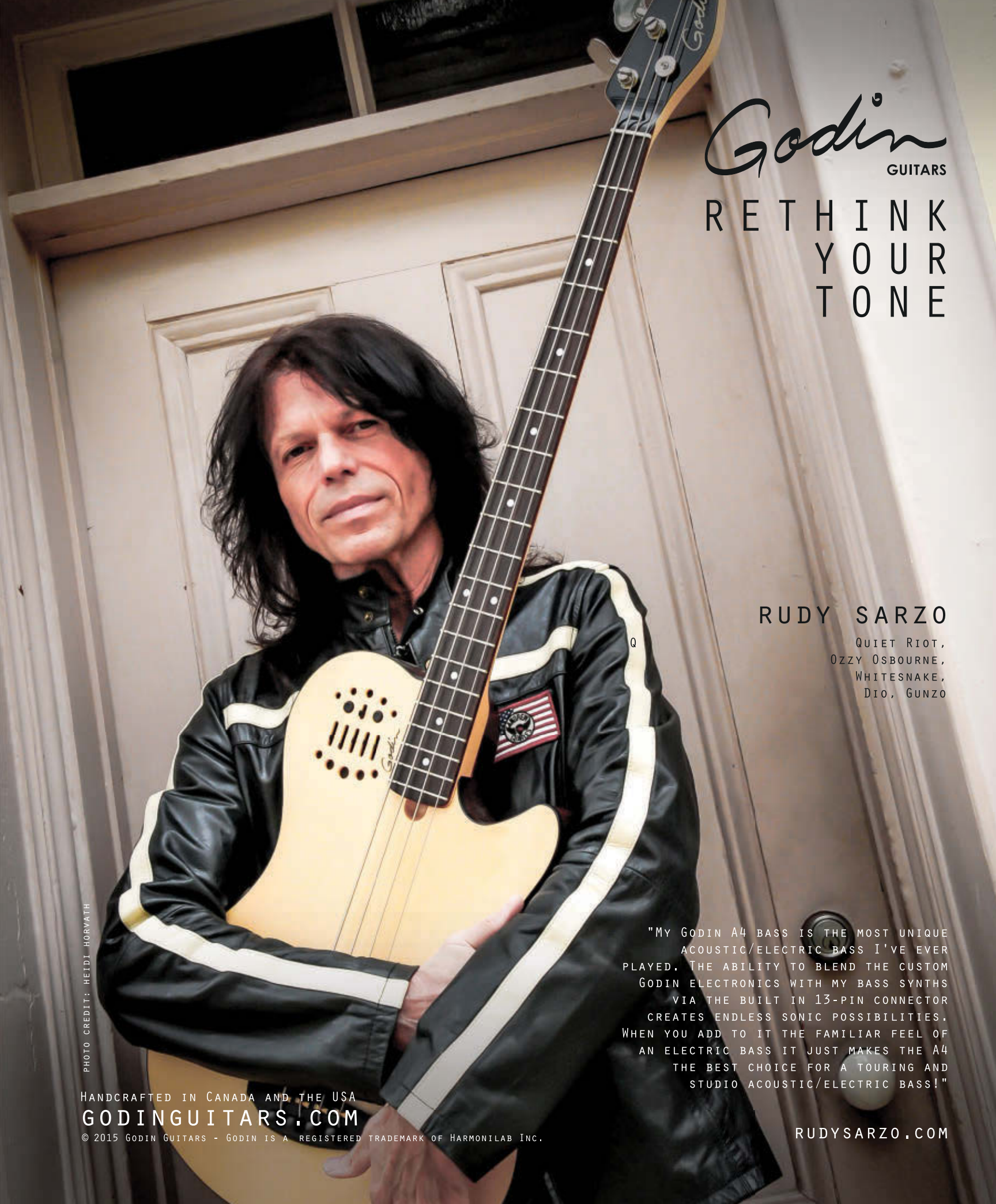
Tones	
Ease of Use	
Build/Design	
Value	

PROS Faithful '70s sound. Dual and single effects via two footswitches.

CONS Some confusing functionality. A bit noisy. Requires 12v power supply (included). Pricey.







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RUDYSARZO.COM

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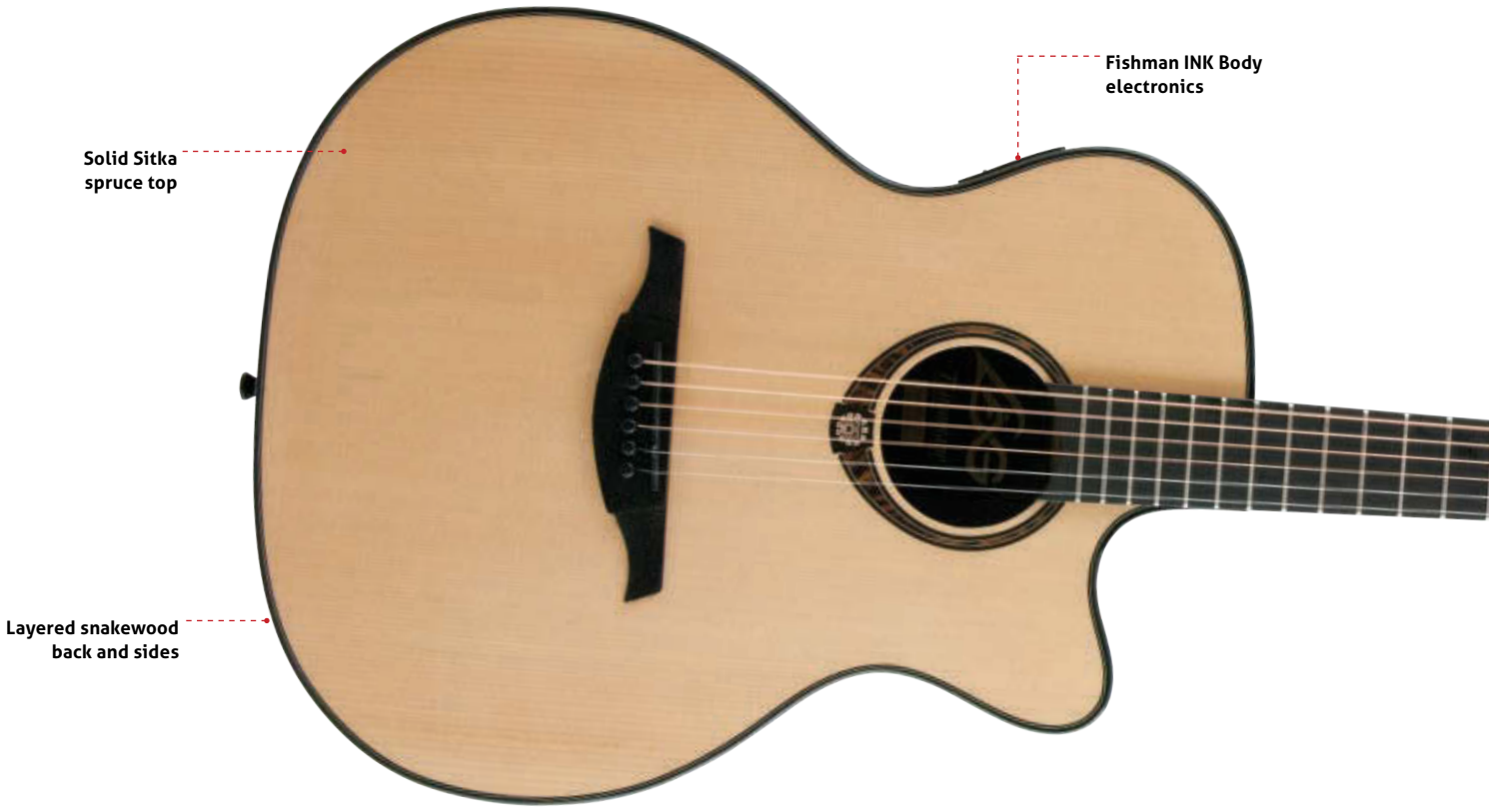
LÂG
Tramontane Special Edition TSE701ACE

By Adam Perlmutter

Not long ago we were celebrating with wonder the return of top-notch quality to the affordable acoustic guitar realm. But even in the slow-changing guitar world, good affordable acoustics are now old news. These days many manufacturers are building good under-a-grand guitars with vintage-correct specs like Adirondack spruce soundboards and hide-glue construction, or modern boutique touches like exotic tonewoods and bold design deviations. Designed in France and built in China, Lâg's TSE701ACE resides at the "modern boutique styling on a budget" end of the spectrum. Its excellent playability and Fishman electronics provide a high-performance feel and an agreeable personality.

Reptilian Cool

The TSE701ACE is based on the Grand Auditorium body shape—a format often preferred by fingerstylists. Its top is solid Sitka spruce top, and the sides are layered snakewood, a South American species with reptile-skin figuring. The neck is khaya (African mahogany), and the fretboard and bridge are Mozambique ebony.



It's an interesting-looking guitar. A sculptural headstock and a fretboard devoid of position inlays suggest a modern high-end jazz guitar. The unconventional snakewood rosette flares at the bottom to include the image of a Mesoamerican deity. All-black hardware and an opaque black neck finish add to the clean, modern look. But as bold as these design moves are, the deeply figured snakewood is even more striking.

Removed from its snazzy faux-snakeskin hardshell case, the TSE701ACE feels a little heavy, perhaps because of its electronics. While the build quality is good, there's some room for improvement. The frets feel smooth and silky, but there are traces of tooling marks on the fretboard. The body's gloss finish is clean, but inside the box things are a little rough: The finish sanding is poor at the rout for the truss rod's access point, and leftover wood particles from the manufacturing process rattle when you shake the guitar.

Slinky Snake

The TSE701ACE's slender neck provides a decidedly modern feel that will appeal to electric guitarists. Out of the box the action is low and effortless, though when played forcefully the low action causes some buzzing, particularly on the low strings at the lowest frets—nothing a simple setup couldn't solve. Notes are even in tone and volume across the fretboard, save for the bottom strings at the highest registers, which are a bit murky.

Overall the guitar sounds bright and civilized, if a little dry. (Though like any new solid-topped guitar, this one might simply lack the resonance that can come with age.) What the instrument lacks in liveliness, it makes up for in balance. With no single register predominating, it's excellent for fingerstyle moves. On the other hand, it's not an instrument that wants to be bashed with abandon. That doesn't exempt it from rhythm duties: Strummed with moderate force, chords have sturdy presence and good note separation. Complex, closely voiced chords sound just as clear as basic open ones.

Some players insist that a 1.75" nut width is a must for fingerstyle, but the TSE701ACE's 43 mm nut (about 1.69") effectively debunks that notion. Fingerstyle techniques feel perfectly natural here, and the guitar's even tone translates well to alternate tunings like DADGAD and open G. However, the instrument doesn't seem to amplify picking-hand nuances like a good, all-solid-wood OM.

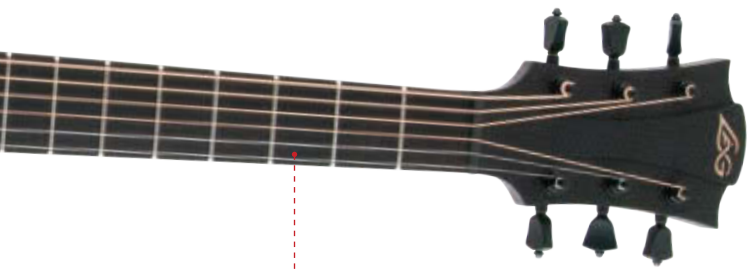
The TSE701ACE also serves well for single-note soloing. It may not be the right guitar to compete with banjo and fiddle at a bluegrass jam, but it sounds sweet and well defined for Django Reinhardt-style gypsy-jazz. And thanks to the Fishman electronics, it would also work well for soloing in almost any acoustic rock or pop situation.

The Fishman INK Body system combines the company's Sonicore pickup with a body-mounted transducer, an onboard preamp (with volume, body, notch, treble, middle, and bass controls), and a chromatic tuner with an LCD display. The system is a marked improvement over the lone undersaddle pickups you tend to encounter in this price range. Plugged into a Fender Acoustasonic amp, the guitar sounds authentically acoustic, and the body sensor is great for percussive thumping techniques.

The Verdict

The TSE701ACE has cool, idiosyncratic style. It sounds good, plays even better, and amplifies well. It's not a guitar for traditionalists, and it's a bit expensive for an instrument with laminated sides and back. But great playability and reliable, expressive electronics make it a solid gigging flattop for just about any acoustic player other than a ham-fisted rock strummer.

CLICK HERE TO WATCH A DEMO of this guitar at premierguitar.com/aug2015



Khaya (African mahogany) neck

RATINGS

Lâg Guitars USA Tramontane Special Edition TSE701ACE

$850 street
lagguitars.com

Tones	
Ease of Use	
Build/Design	
Value	

PROS Great playability. High-quality electronics. Unique design and cosmetics.

CONS A little expensive for an imported guitar with laminated back and sides.

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TC ELECTRONIC
Viscous Vibe

By Charles Saufley

Compact, affordable Uni-Vibe-inspired pedals have become abundant in recent years—an excellent development for psychedelically aligned modulation fiends like this editor. What makes this proliferation of swirl machines extra-cool is that builders are also looking beyond mimicking the original Uni-Vibe (a thankless task for digital engineers in particular), adding extra features and sounds that expand on the original's possibilities.

At its core, TC Electronic's $129 Viscous Vibe is a digital-modulation machine for Vibe fans on a budget. For plug-and-play types it delivers a fundamentally Uni-Vibe-like voice colored by a low-end-heavy, tremolo-like intensity. But Viscous Vibe also incorporates TC's Tone Print technology, making many more flavors available via download. While many of these extra textures aren't authentically Uni-Vibe-like, they make the Viscous Vibe a formidable and versatile modulation unit.



Green Waves

The Viscous Vibe comes in TC's signature Tone Print pedal enclosure. It features the same basic controls as a Uni-Vibe: A small switch toggles between the commonly used "chorus" effect and the 100-percent-wet vibrato function. (Its middle position activates downloaded Tone Print voices—more on this in a bit.) Three knobs control effect intensity, volume, and modulation speed. The speed control is a large knob you can probably operate with your foot if your pedalboard isn't too crowded. Holding down the footswitch activates a ramp-up sweep. The big knob and ramp-up function are game attempts to capture the functionality of the original Uni-Vibe's pedal-controlled rate setting, though neither can match the pedal's expressive potential.

Opening the pedal (by twisting a single, substantial screw with a coin) reveals little—a removable protective hood covers the IC. But you'll see DIP switches for true-bypass/buffered switching and a kill-dry function that mutes the direct signal when using the pedal in an effect loop. There's also a 9V battery compartment. On the exterior are a 9V DC jack and the USB 2.0 port used to download Tone Prints. Like all pedals in this series, the Viscous Vibe feels rock-solid.

Smorgasbord Of Swirl

In chorus mode, the Viscous Vibe's bass-heavy coloration can be both virtuous and problematic, depending on your style and rig. With bridge single-coils and hot humbuckers, it can sound throaty, vowely, heavy, and huge, especially for chords, arpeggios, and slow, liquid solo passages. It can also be a killer companion for an unruly fuzz. My buzzy, hot, and spiky silicon Fuzzrite clone sounded much more substantial, and the fuzz's extra highs helped animate the modulation sweeps.

There are drawbacks to that ample low end. The relative lack of high-mids means sweeps can sometimes have an on/off, almost tremolo-like quality. This can be a killer effect for chord riffs, but some players may miss the original Uni-Vibe's smoother harmonic curve.

But if the default chorus voice doesn't suit your rig, more options are available among the Tone Prints (which are easy to access and great fun to experiment with, regardless of your needs). The "Vintage Vibe" download seemed to smooth and de-emphasize the low-end content that made the default chorus setting a poor match for my Fender Bassman. Other downloads are less conventional: "Space Vibe" adds a flanging effect whose intense sweeps move in subdivisions parallel to the Vibe modulations. "Thirsty Hearts" adds Tri-Chorus with similarly intense and disorienting results. Clearly, the more radical Tone Prints have little to do with replicating vintage Uni-Vibe tones, but they greatly expand the pedal's range for experimentally minded players.

Vibrato mode (widely underutilized on vintage Uni-Vibes) adds another cool dimension. While not as versatile or intense as TC's own Shaker, it's more organically queasy and animated than some digital vibratos I've encountered—a damn good thing in my book. Slower vibrato speeds are particularly effective, especially with buzzing '60s-style fuzz.

The Verdict

Duplicating the smooth contours of an original optical Uni-Vibe circuit is tough, especially in the digital realm. While the Vicious Vibe doesn't precisely capture the depth and harmonic complexity of a good optical unit, its Tone Prints make it far more flexible than the original, especially if you want to move beyond well trodden and hard-to-top Hendrix moves. Built tough and sensibly priced, the Viscous Vibe is an appealing and affordable chorus/vibrato option.

CLICK HERE TO WATCH A DEMO of this pedal at premierguitar.com/aug2015

RATINGS

TC Electronic Viscous Vibe

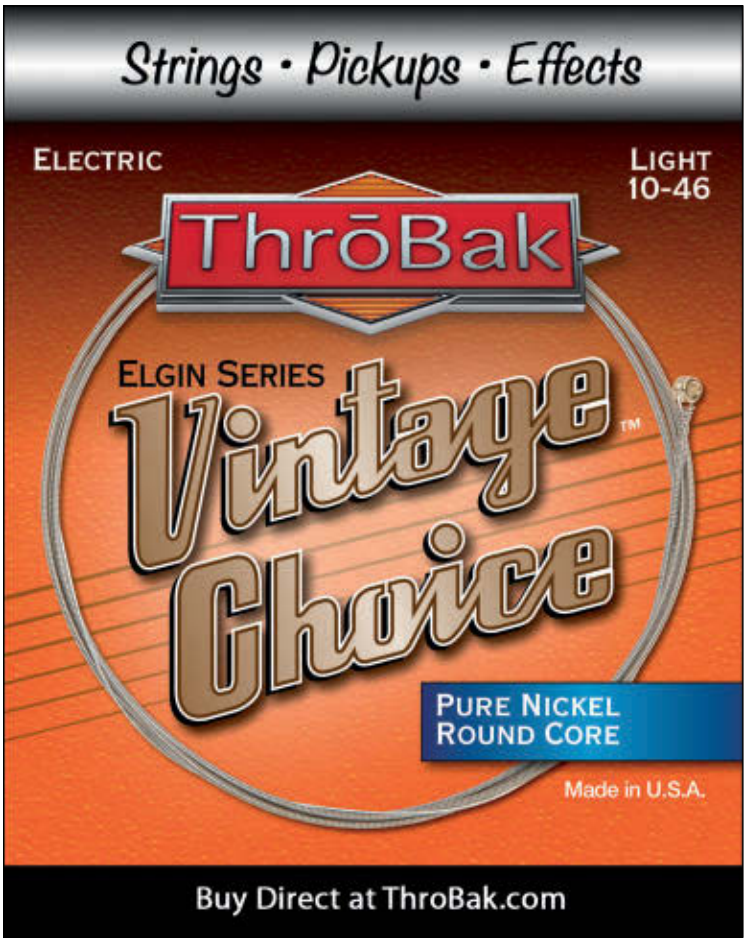
$129 street
tcelectronic.com

Tones	4.5
Ease of Use	4.5
Build/Design	4.5
Value	4.5

PROS Versatile modulation. Flexible Tone print functionality. Sturdy. Rich basic tone.

CONS Default chorus voice can have too much low-end emphasis for humbuckers and bass-heavy amplifiers.






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ARIA IGB-RC

By Steve Cook

Japan's Aria released their first electric guitar in 1963 and has enjoyed a reputation for making solid, budget-friendly instruments ever since. But the company isn't only known for entry-level instruments—top-shelf bassists like Duran Duran's John Taylor and Metallica's Cliff Burton have championed Aria's pro-level offerings. One such bass is the new IGB-RC, a 4-string machine boasting smart design, great tones, and more than a little flash.

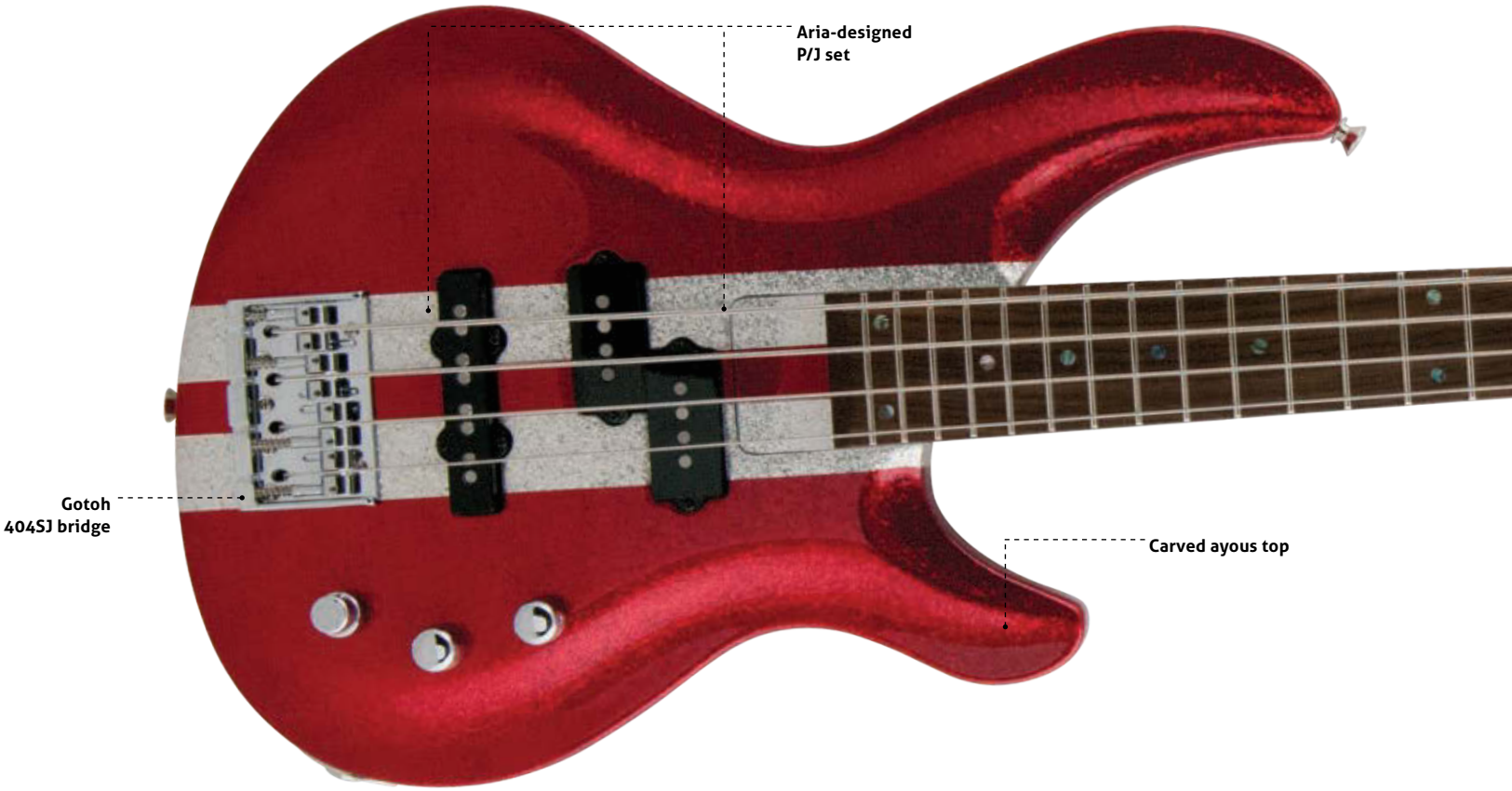
Aria We There Yet?

You can't judge a book by its cover, but still, the 33"-scale IGB-RC looks pretty badass. The metal-flake finish and dual racing stripes provide a touch of glam, while the silver-finished neck and headstock complement the vibe. The paint job is flawless from top to bottom.

The electronics include an Aria-designed active P/J set (with a reverse-P layout) and onboard 2-band EQ via a stacked dual knob. The tidy wiring cavity is easily accessible, as is the 9V battery compartment.

Several design features distinguish the IGB-RC from traditional builds. The 4-bolt neck offers more sustain and beef than most bolt-on instrument. (I love the string-through-body sustain of the IGB-RC as it arrived, though the Gotoh 404SJ bridge permits top loading as well.) The tight, compact ayous body features a contoured belly scoop and a carved top that adds a third dimension to the metal-flake finish. A rosewood fingerboard tops the maple neck, and lightweight Gotoh Res-O-Lite tuners help keep the bass evenly balanced.

There are no flaws on the bass's seams. The neck joint is super-tight. The frets are perfect, and all the screws are tight.



The only imperfection I found was a loose EQ pot, easily fixed. The care evident in the IGB-RC's assembly and setup is truly impressive.

Aria You Experienced?

I started out playing unplugged, just to get a feel for the bass. The IGB-RC has a smaller footprint than a beefy P, and it sits just right on the body. The factory string setup is low and ultra-fast, and the lower cutaway affords access to all 24 frets. Unplugged, this bass sustains like crazy. I also dig the way the reverse-P set lets me comfortably anchor my thumb on a 3rd/4th-string pickup that's closer to the bridge than on a traditional P.

Next I ran the IGB-RC through an Eden CXC210 combo with the pickups at equal power and the EQ flat. The bass has great midrange punch, very modern and concise. Tones are articulate and pointed, which should make slappers happy. Keeping the pickups centered, I moved the active EQ around and was glad to find that there isn't too much EQ with which to get in trouble. Cranking the highs enhanced the pointedness (handy for when you need help cutting through the mix) yet didn't make tones harsh and unusable.

When I rolled the pickup balance toward the P side, tones got somewhat darker, though they lack some of the warmth I expect from a P-style axe. Adjusting the bass EQ helped, but didn't quite give me the frequencies I was hoping to pull out. Favoring the J-style pickup provided plenty of bite and aggression, and beefing up the low EQ a touch gave me a pickup I could hang with all night.

After moving from pickup to pickup, I found I favored the combined sound, which provides smooth, balanced tones that lie just right. Now, remember: This is a modern-style bass—if you need rounder, vintage-type tones, you may have to look elsewhere. But if you need extra pop for fast fingerstyle runs, well, here you go!

The Verdict

The IGB-RC's design is smart. Its weight and balance can make three-set gigs more comfortable. The compact styling may suit players who are small in stature, though the lofty price tag may keep the bass out of reach for those who are small in wallet. It's a flashy, well built bass whose bold finish and modern tones just may get you noticed in a hurry.

CLICK HERE TO WATCH A DEMO of this bass at premierguitar.com/aug2015

RATINGS

Aria IGB-RC

$1,999 street
ariaguitars.com

Tones	4.5
Ease of Use	5
Build/Design	5
Value	4.5

PROS Well built. Lightweight. Pro features.

CONS Pricey. Tonally limited.



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BACKWOODS
Blackwater Filter

By Charles Saufley



It would be hard to find an effect more polarizing than the envelope filter (aka auto wah). For many funk-minded and jam-oriented players, its quacky, percussive filtering effect is indispensible. For the funk and jam averse, envelope filters might as well be a stompbox crime against humanity.

Yet this binary view of the envelope filter ignores much of the device's potential. Carefully selected settings, a lyrical, dynamic playing approach, and crafty integration with effects you probably already use can take an envelope filter well beyond cliché auto-wah textures. Backwoods' Blackwater envelope filter delivers classic auto wah sounds with style and aplomb. But it's musicality and agreeable relationship to other effects make it *much* more than a one-trick funky duck … er, pony.

Swamp Thing

The Blackwater Filter is a simple, stout, and utilitarian item—just two knobs, a toggle switch, and a quiet relay footswitch. The pedal's innards are relatively simple too. The two shielded in/out jacks sit just below the cluttered, but well-ordered circuit board, which occupies less than half of the space inside the enclosure. The space that might otherwise be dedicated to a battery compartment sits empty: The Blackwater only runs on 9V DC power.

The Funky Road Less Taken

Most folks in the market for an auto wah usually want one for its most familiar applications: Bootsy Collins' vowely bass tones, Jerry Garcia's *Shakedown Street*-era lead textures, and the duck quack punctuation an auto-wah can lend to funk rhythm tracks. The Blackwater excels in these sonic environs.

For those not yet in the know, an envelope filter is activated by changes in input volume, so a well-designed filter will be very responsive to pick dynamics and volume changes. The Blackwater is wonderfully sensitive to both. Like just about any envelope filter, low guitar volume confuses the Blackwater circuit to some extent—resulting in clipped signals and squashing the dynamic response that is key to making it work—so it's best to leave your guitar volume wide open and pay attention to your picking intensity.

In clean setups (I used a few different Fender guitars and amplifiers), it's remarkable how many expressive colors you can get by manipulating the range dial and the high/low filter switch, and using various combinations of single-coils. The high-pass filter setting delivers killer variations of the snappy, super-funky tones most identified with auto wahs—adding heaps of funky attitude to the simplest pentatonic lead. With the range knob all the way clockwise, the filter emphasizes high peaks, and a Telecaster bridge pickup in this setup conjures the coolest (some might say unholy) imaginable unions of Bakersfield sting and boulevard-cruising funk tones.

The most overtly filtered tones come from the high-pass filter, and you get the best combination of low-end heft and treble definition with the range knob in the 11-2 o'clock zone. At these settings, the way the filter processes a given note's harmonic spectrum is fascinating—imagine hearing a single Telecaster note bloom from bassy primordial mud to a day-glo sparkler in the short duration between attack and decay. (Sustain? Let's just say there isn't much.)

Using the neck pickup or backing off your guitar tone mellows some of the peaks in this setting, which is great for languid leads or spacious, improvised chord progressions. Want to add an even more surreal touch to filtered chords with the Blackwater? Try a little volume swell as you hit the strings. It will blunt the high resonant peak but maintain the vowel-like taper, which sounds *extra* cool with a long delay.

The low-pass filter is a little less intuitive, a bit more moody. The extra low end favors slow, bubbling leads and chords over sassy, fast funk flurries. But these sounds can also make simple Stax-style riffs on the lowest strings sound extra funky, especially if you tune your guitar down a step or two. In fact, if you roll the range all the way counterclockwise with the low-pass filter on, you can effectively turn your detuned 6-string into a cool bass/baritone hybrid.

The Blackwater can profoundly transform a fuzz solo too. Placed out in front of a silicon Fuzz Face clone, a phaser, and a digital delay, the Blackwater's envelope effect was mesmerizing—a sci-fi, slo-funk stew of Eddie Hazel and Ernie Isley that turned a rather ordinary crying blues solo into a heavy-as-hell, sad-tripping, space-funk sojourn.

The Verdict

The Backwoods Blackwater is an expressive, dynamic little filter effect. And the same sonic and musical properties that make it an excellent envelope filter for traditional auto-wah applications also make it a very hip addition to any texturalist's pedalboard. The Blackwater's ability to mix with fuzz, delay, phase, and flange give it the capacity to make those effects (and even the most cliché riffs and tricks you might associate with them) much more expressive. The range control has a very wide throw that can significantly reshape the performance of either filter. And the filters themselves add deep, rich, vocal, and organic nuance to an effect that, for the most part, is anything but subtle.

There are certainly less expensive envelope filters out there, but there are many more expensive ones that don't do a whole lot more. (A band-pass filter may be the Blackwater's only notable feature omission.) At around 150 bucks, the Blackwater occupies a sweet spot where value, expressive potential, and musical character come together. It's a great platform for uncovering the many surprises this underrated and often misunderstood effect can deliver.

CLICK HERE TO WATCH A DEMO of this pedal at premierguitar.com/aug2015

RATINGS

Backwoods Music Blackwater

$149 street
backwoods-music.com

Tones	4.5
Ease of Use	4
Build/Design	4
Value	4

PROS Strong, vocal filter voice. Excellent pick sensitivity.

CONS A band-pass filter would be nice.



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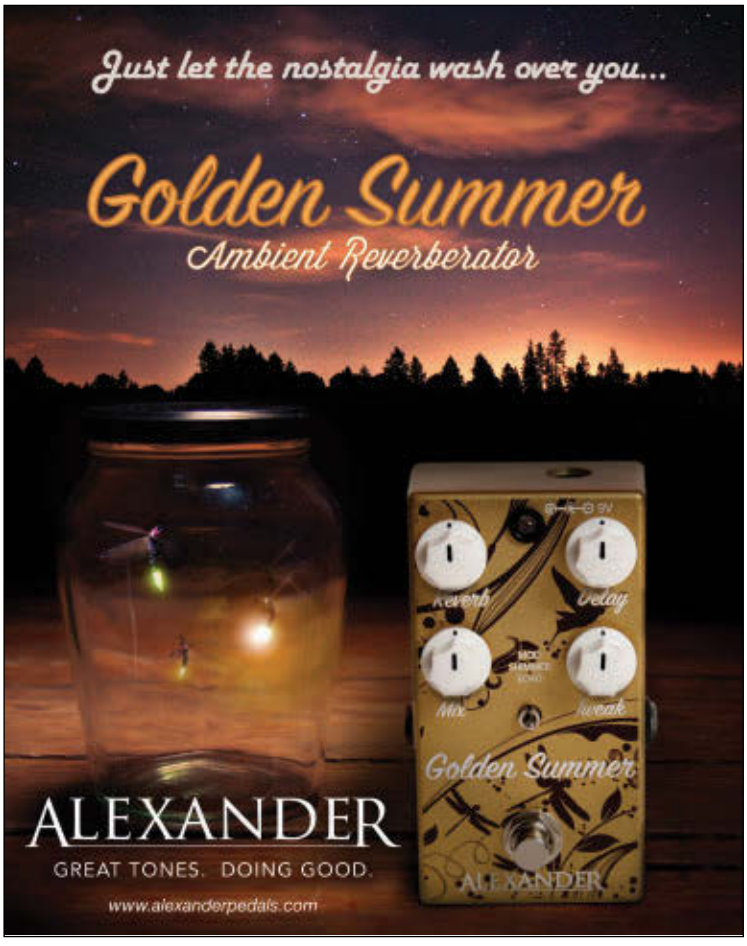








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PREMIER GEAR

FISHMAN
Fluence Classics

By Shawn Hammond

With a couple of notable exceptions, new electric-guitar pickup technology tends to not fare well in the marketplace. Sometimes it's because the new designs seem more for engineering's sake than sound's. But most often it's because guitarists are addicted to classic tones achieved using World War II-era technology. "If it ain't broken, don't fix it," is our basic MO. Heck, even many radical experimentalists prefer vintage pickups as starting points for their aural anarchy.

So why did revered acoustic pickup and amplification guru Larry Fishman venture into this world filled with, as he put it last year, "too much voodoo"? In a nutshell, because he felt the technology behind his Fluence pickups could yield impeccable 20th-century tones and bring something new to the table. Here we're testing that premise with a set of Fluence Classic Humbuckers installed in a 2014 Gibson Les Paul Traditional Pro.

But First, a Bit of Minutiae

Manufacturers big and small use terms like "vintage," "classic," and "old school" to describe their pickups' sonic characteristics. But these descriptors are tricky, and subjective. There are simply too many variables at play in a vintage setup to predict exactly what tones will emerge: Even if you're only looking at the electrical circuit of, say, a '59 Les Paul, variables from materials used, true (vs. labeled) electrical-component values, and pickup-winding approaches can result in very different-sounding instruments from one '59 to another.

For those looking to imbue their own instrument with vintage tones, Fishman proffers a route that's theoretically more consistent and repeatable from pickup set to pickup set. They started by painstakingly measuring the complex tonal, electrical, and magnetic-field data from select vintage pickups and identifying parameters that seemed most definitively "classic." Then they created pickups around those parameters using two 48-layer coils printed on stacks of thin circuit boards. It's 9V-powered aerospace technology that virtually eliminates unpredictable electrical variances while offering added flexibility and reducing noise that's characteristic of many vintage designs.



Confession Time

I'll admit to some skepticism when I first heard about Fluence pickups. Though they're not digital, my kneejerk reaction was to think of experiences with amp-, effect-, and instrument-modeling devices that left me wanting for the real thing. But I became intrigued when I ran into Larry Fishman at Musikmesse this year. Larry is an accomplished player of upright bass who proved his mettle in acoustic gear ages ago. And based on his company's history few would expect him to rave about how the best old PAFs (the "patent-applied-for" humbuckers in the earliest Les Pauls) are very single-coil like in their ability to transfer nuance. As a single-coil fan precisely because so many humbuckers mask dynamic subtleties, I thought, "Okay, I gotta try these."

So, How Fluent Are They?

Fluence Classics have two voice modes that are selectable via push-pull tone knobs. Mode 1 (puss-pull knob down) is vintage PAF-style. In the bridge position, this voice delivered incredible note detail through my Jaguar HC50 and Goodsell Valpreaux 21 amps. Moderate overdrive and medium pick attack yielded crunchy, harmonically complex classic rock with nice note separation and that wonderfully open, slightly microphonic (in a wonderful way) sound that so many great PAFs have. It reminded me a lot of Seymour Duncan's Seth Lover humbuckers.

But that's just the tip of the iceberg: With the same amp sound, a rabid picking attack yielded blazing tones perfect for hardcore. When I got more precise and added palm muting, I got darn near spot-on EVH rhythm tones. The real deal sealer for me, though, was the fact that you can ease up on your attack—without switching channels, disengaging a dirt pedal, or even lowering your volume knob—and get crystalline cleans that sound beautiful for anything from Edge-style delay

romps to quasi-country twang. The bridge pickup's "classic hot rod" mode offers similar tonalities, but with a hotter signal driving more harmonics and making it a cinch to ride singing leads for days, even without much gain from your amp.

PAF mode in the neck and middle positions offers even more vintage-y goodness. Soloed, the front pickup is fat and gritty, but still very detailed—perfect for Allmans jams or Gary Moore-like blues—and the middle position yields everything from *Houses of the Holy*-era Zep tones to soulful R&B and jazzy feels.

Fishman describes the neck unit's alternate voicing as "clear, airy chime," though to my ears it sounds like the mids have been scooped out to provide a more solid and focused fundamental note. It's my least favorite Fluence sound, though I was extremely impressed with how dynamically both neck modes reacted to fuzz pedals, going from gruesomely spitty to tame and octave-y, depending on knob settings.

The Verdict

Sure, the need for onboard power for Fishman Fluence Classic 'buckers is a bit of a bummer—even if you've got an extra $100 to invest in the optional USB-rechargeable battery built into a rear control-cavity cover. And considering how much was put into developing their sounds—not to mention how finicky the target demographic can be about vintage sonic *and* visual vibes—it's somewhat surprising that the Classics don't have a more traditional or high-end look. That said, you can color this skeptic convinced: Fluence Classic Humbuckers serve up authentic PAF-style tones that are a compelling alternative to highly esteemed traditional competitors. What's more, they offer extra tonal options that effectively turn them into a second set of pickups, all while remaining straightforward and easy to use.

CLICK HERE TO HEAR these pickups at premierguitar.com/aug2015

RATINGS

Fishman Fluence Classics

$249 street
fishman.com

Tones	4½
Versatility	5
Build/Design	4½
Value	4

PROS Delicious vintage and hot-rod tones whether played clean or dirty. Fantastic sensitivity to nuanced attack.

CONS Visual aesthetics seem odd match for elegant tones and vintage-minded audience. Requires extra space and money for 9V power.



Question & Obsession

We have some things to get off our chest. This month, we asked Desaparecidos guitarist Denver Dalley to chime in with PG editors to name things guitarists or musicians do that can be downright annoying.

Q: ***As a guitar player and music fan, _____ really grinds my gears because _____ .***



Denver Dalley

Guest Picker, Desaparecidos

A: Guest lists really grind my gears because they're always such a headache! Everyone hits you up to get on them, there's never enough room for all of them, if you're supposed to be on one, you're often missing a pass or something. Lately I'm a huge fan of just buying a ticket and texting my friend after the show.

Current obsession:
The Gibson RD. It's such a cool guitar that they briefly made in the late '70s. I have four of them and I'm always looking for the next one. I'm also obsessed with EarthQuaker Devices' Bit Commander and Afterneath pedals.



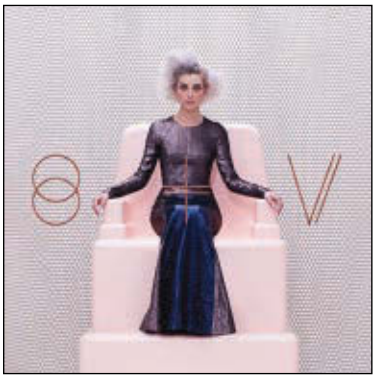


Hannah Complin

Reader of the Month

A: Guys at guitar stores who assume I can't play and know nothing because I'm female really grinds my gears because it's demeaning being spoken down to.

Current obsession:
St. Vincent. I have a huge guitar-geek crush on Annie Clark. Her live solos are fresh and intense, her visual style is Bowie meets David Lynch, and nasty velcro fuzz with gorgeous female vocals is my personal audio kryptonite. St. Vincent is what freaky art-rock dreams are made of.





John Bohlinger

Nashville Correspondent

A: Bands that use tracks while playing live really grinds my gears because it undermines the integrity of any live performance. I understand that artists want to sound just like their studio recording. Faking it is faking it. If I wanted to listen to pre-recorded tracks I'd stay home or go to a rave. Ashlee Simpson's SNL meltdown should have ended the practice 10 years ago, but today, the track/live combo is more common than ever.

Current obsession:
Playing in tune. In the fretted/polyphonic world, it disappears as soon as you change chords.
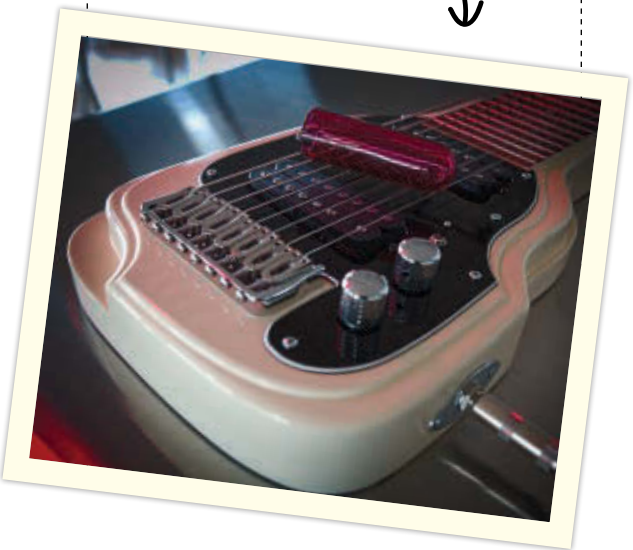




Andy Ellis

Senior Editor

A: Auto-Tune really grinds my gears because it has *ruined* country music—or what passes for it today—by coating all vocals with sonic ClingWrap. Give me Merle Haggard and Waylon, warts and all.

Current obsession:
A 25"-scale JMCS-8BD Morrell 8-string lap steel. It screams, thanks to twin DiMarzio PAF8 humbuckers and a big ol' custom Rukavina brass nut, and its longer scale yields extra twang.





Jason Shadrick

Associate Editor

A: It might sound weird coming from a jazz nerd, but the tendency for "modern" jazz to sound like some kind of rhythmic decathlon is troubling. Don't confuse art and craft.

Current obsession:
The Rolling Stones' *Sticky Fingers*. With the anniversary looming, I took some time to rediscover Mick Taylor's greasy rhythm work on "Can't You Hear Me Knocking," and Cooder's haunting slide on "Sister Morphine."

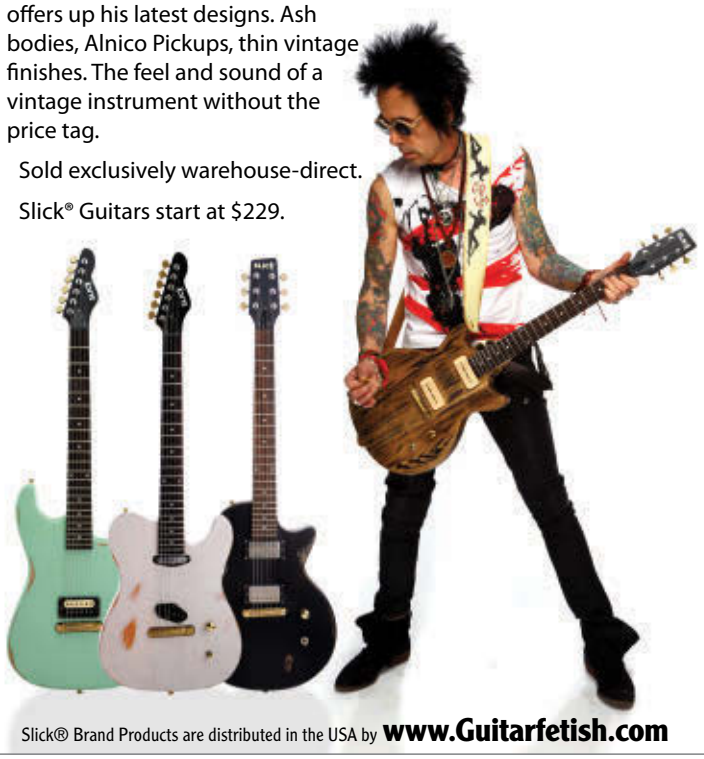


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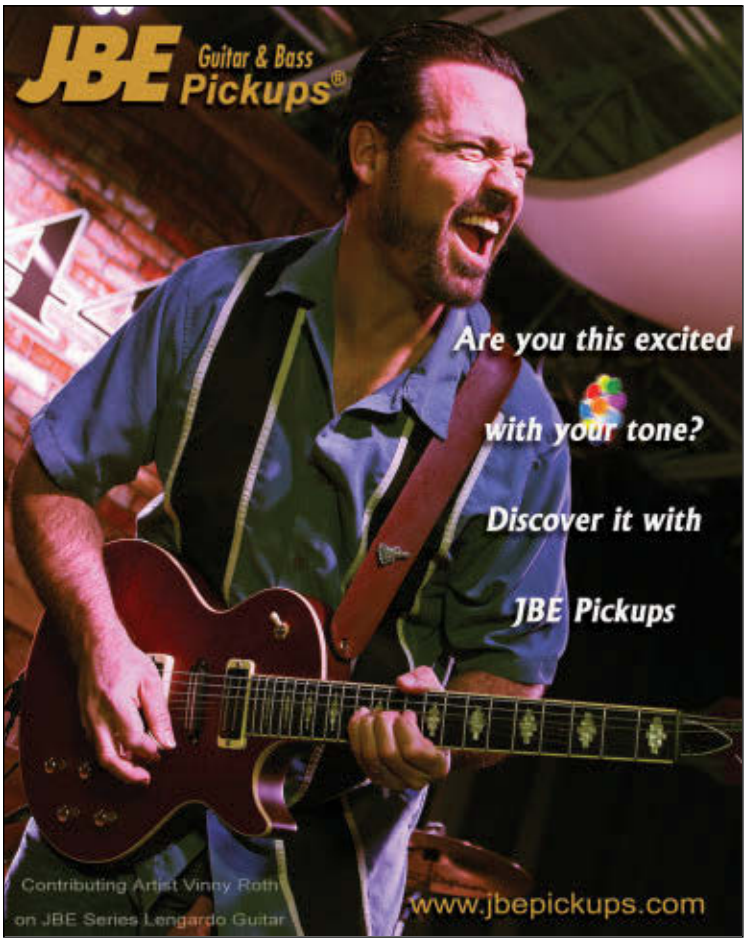
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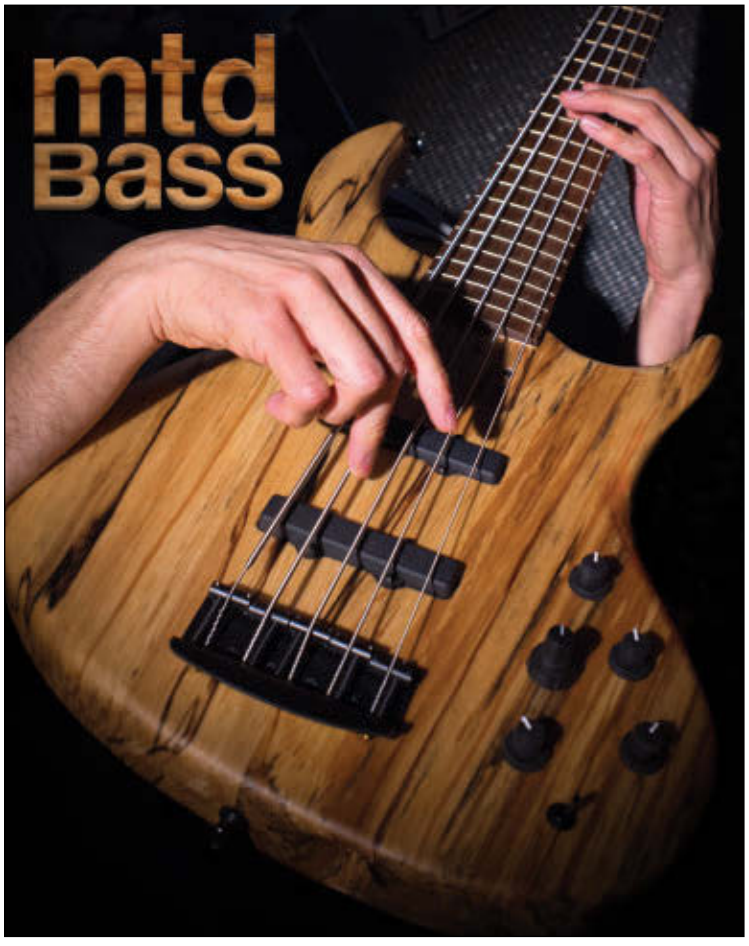
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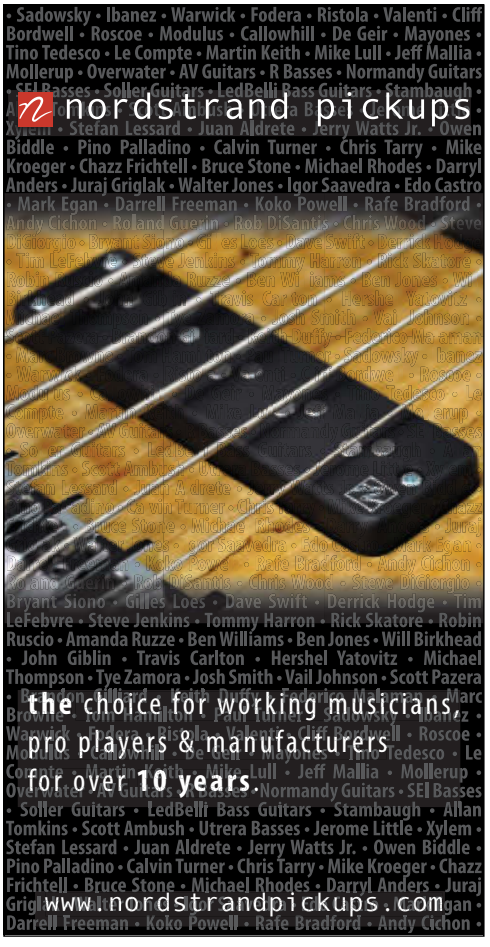
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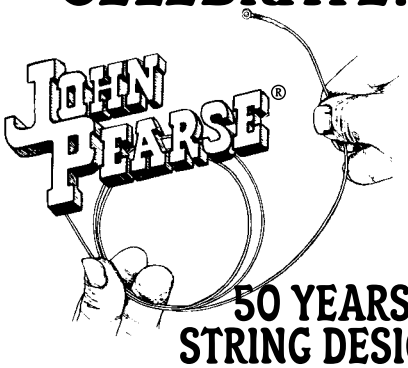
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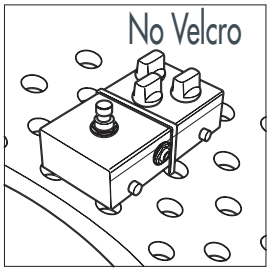
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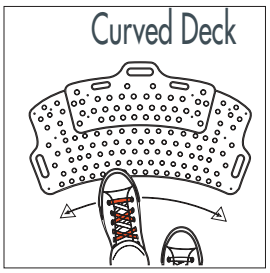
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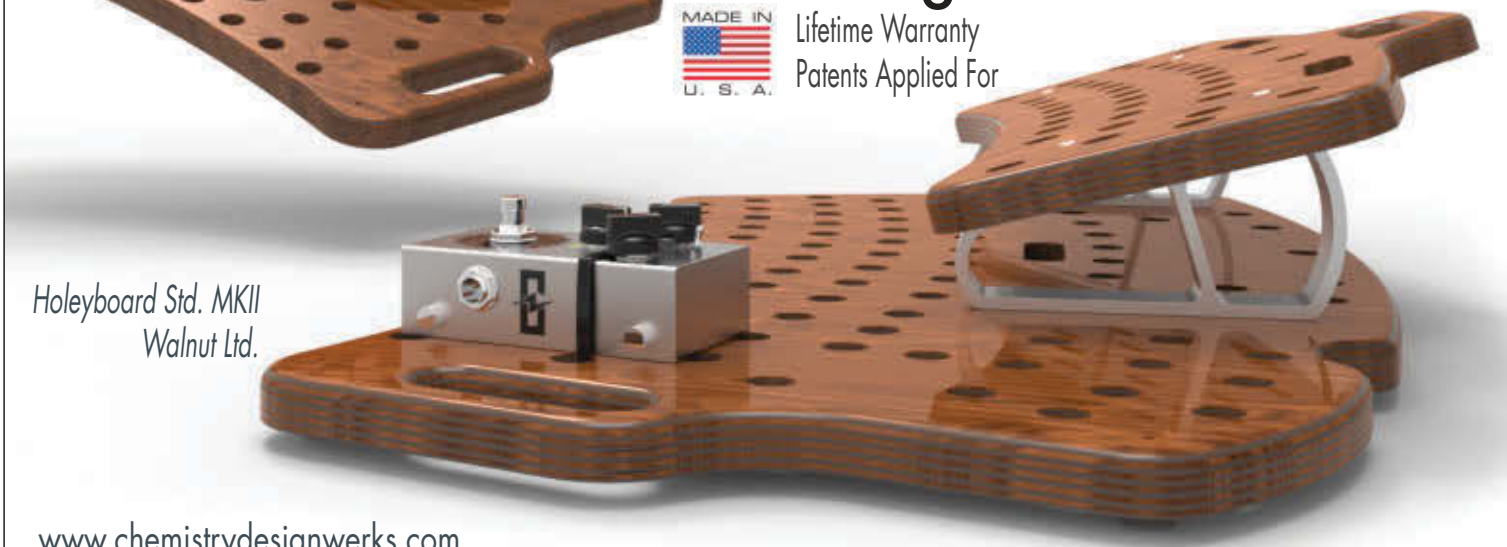




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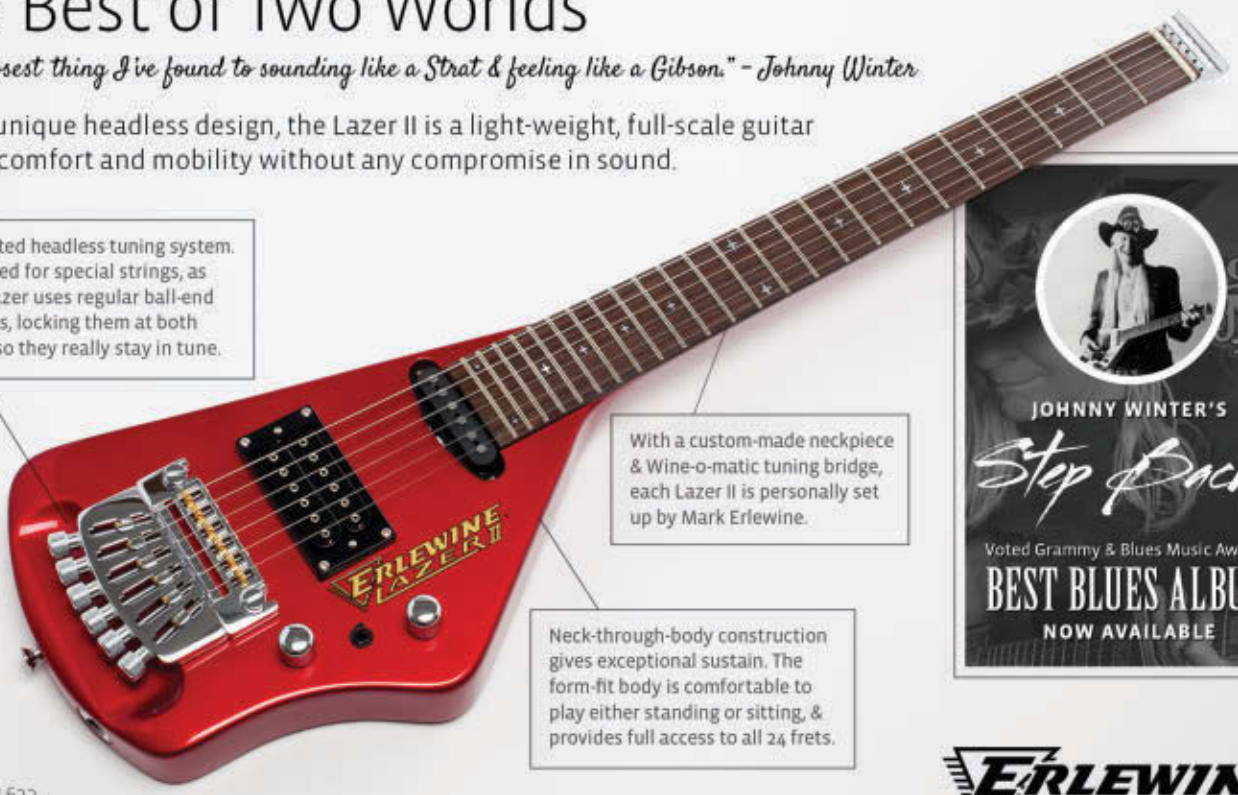
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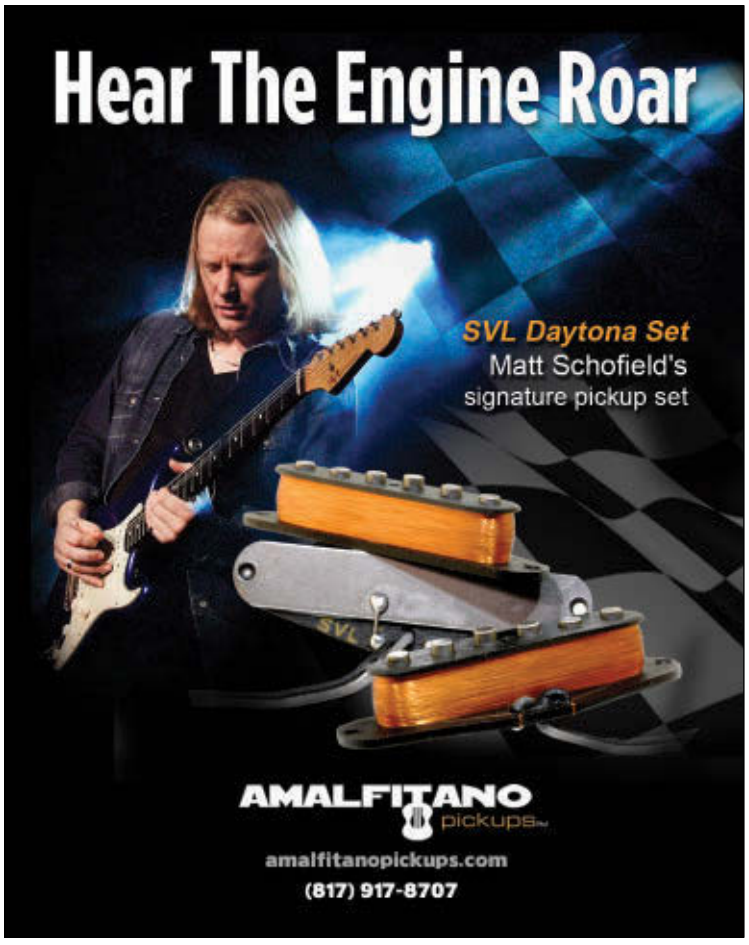
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Picking Parts and Perfection

BY JOL DANTZIG



Right: To make sure a guitar is a match for you, there are things to consider beyond playability and tone.

There are plenty of ways to judge a guitar. Beyond the important and obvious tone and playability factors, there's an entire world of other considerations that branch off into the distance like the tributaries of the Amazon. Admittedly, I have a different perspective when I'm checking out any instrument I encounter. One part of me is a hopeless fanboy who loves to just spank the plank, and the other is the more cynical product of four decades in guitar manufacturing.

First I look at the 'burst. I've been chasing the grail of vintage guitars since the early 1970s, so you may be surprised to learn that I don't usually fall for a fancy-schmancy, figured-maple top. Not every design lends itself to the transverse nature of flame maple. When the shape and flow of the body is at odds with the lines of figure, I feel a tension that needs to be resolved.

The application of the finish can visually make or break any guitar, and this is where the artistry of an accomplished painter comes into play. I look for a sunburst that moves your eyes along the body shape and compliments the figure in the process. A painter can choose to follow the edge of the guitar all the way around to accentuate cutaways and highlight the length of the body. Conversely, a burst with its own signature shape can add drama to a modest top. A bird's-eye or plain-maple top is a great candidate for a very narrow strip of color at the body's perimeter. (This is particularly cool when it adds contrast to show off a bound edge.) Not every guitar requires choice figuring to make a statement, and more often than not, I go for an overall balance between the shape and the gingerbread.

None more black. When you encounter a black guitar, you want to see the deepest, flattest, slickest paint job possible. Guitar builders *hate* black as much as goths love pallor because it's really hard to do well. Gloss black shows every imperfection, which is why car companies (and guitar builders) leave some orange peel on their products.

To test a painter's finish, try to read a newspaper or book in the reflection. Is the small print clear? Are lines razor-sharp? A great finish looks like a mirror—not just *shiny*. If you make guitars, you can hate me for pointing this out, but you know I'm not lying.

When in doubt, simplify. There are tons of great components out there, so it might be tempting for a guitar maker to overindulge. But throwing all the spices into one dish can make a guitar look like an explosion in a parts factory. Instrument designers with an eye for detail want a theme to run through all of the components. On the other hand, I've seen guitars that break this rule by using the dissonance of mismatched parts like a Thelonious Monk chord. You can of course change out hardware if you don't like it, but it's worth thinking about the builder's intent.

Another area where a builder can get it right (or really wrong) is wood choice. The whole subject of tonewoods and sound has been done to death, but there are visual considerations as well. My personal pet peeve is the 1970s hippie approach of laminating half a dozen "exotic" woods together and hoping they will play nice with all that glue. If you're going to break this simplicity rule, make sure the guitar also has seven or eight impossibly small knobs for onboard EQ and lots of brass hardware. Again, I'm not voicing anything but personal preference here. If this is your idea of a groovy axe, go ahead and dig it, man!

Hide and seek. There are a few places I look to see if the builder really gives a damn, and most of them are hiding in plain sight. Computer-aided routing has improved the fit around inlays, but there's always a manufacturing margin built in to allow for inconsistencies like wood movement. Truly close tolerances take time and don't need much filler. You can see what fill there is by reflecting a task light on the fretboard.

Next, take a gander at the tip of the headstock. Guitar companies *know* that nobody looks there. Why waste time buffing someplace no one will see? I also always look at the end of the fretboard on electrics. Did it get polished at all? The inside edges of unbound f-holes sometimes get the black magic-marker treatment. (Now *that's* classy.) There's a way to buff those edges, but it's not cost-effective in mass production, and people rarely stick their fingers in there to check. Go ahead—you know you want to now. And as long as you're getting all touchy-feely, examine the edges of the pickguard for machine marks and burrs as well.

Under the hood. Pop off that control-cavity cover and take a look where the sun doesn't shine. Is it filthy with polishing compound residue? The best makers take pride in surprising you with a clean and tidy interior. A smooth coat of shielding paint and neatly routed wiring complete with shiny solder joints are nice touches. If you want to be really cruel, apply the same surveillance techniques under the truss-rod cover.

Why it Matters. Most of this stuff won't make you sound any better. (That's what practice is for.) But if you're going to pay a premium for a great guitar, you deserve a level of care that measures up to the performance. While it is absolutely possible for a crudely made guitar to kick ass, there is allure in something that's done well in all aspects. I'm a big fan of simple guitars, but I am also an artist who appreciates details. I don't see any reason to discriminate.



JOL DANTZIG *is a noted designer, builder, and player who co-founded Hamer Guitars, one of the first boutique guitar brands, in 1973. Today, as the director of Dantzig Guitar Design, he continues to help define the art of custom guitar. To learn more, visit guitardesigner.com.*

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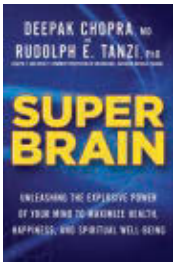
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Hitting the Curve

BY JOHN BOHLINGER



In a great performance, head space trumps fancy fretwork, but finding that magic zone means sidestepping your lizard brain.

If you're a performing guitarist, life will sometimes throw you a curve ball. To make it in the majors, you have to be able to hit whatever comes down the pipe. Here's a true story of a recent curve ball that left me drenched in sweat and feeling like my heart was going to explode.

I'm typing this in my hotel room a few hours after having played on *The Voice*. My adrenaline-fueled fingers are beating my keyboard like it owes me money. With my heart still racing, I'm trying to record the experience while the details remain fresh. Live TV happens fast—you literally have about 25 seconds to run onstage, plug into unfamiliar gear, tune, check your tone, and then play when you get the cue. To avoid an on-air melt down, I try to keep my setup simple. But this song required an Edge-like tone that incorporated amp reverb and two delays—one set for quarter-notes and the other for dotted eighths.

During our hurried rehearsal, I plugged my steel guitar into a volume pedal, two delay pedals, and the supplied backline Fender Vibroverb. I hit a note and heard only crackling from the amp. I quickly began the standard troubleshooting routine: I tried both channels, swapped out cables and pedals (I'd brought a spare delay), and tried different power. I even smacked the amp hard while cursing under my breath.

Eventually, I jettisoned the quarter-note delay and landed on a single delay pedal that worked. As Murphy would have it, the amp's reverb was broken as well. It was the performance equivalent of driving across country in a car with three cylinders firing—not ideal, but it should get you there. We ran the song twice in rehearsal, my rig worked on the second run through. I felt like I'd dodged a bullet.

Come show time, they rolled out our gear during the commercial break. I took my place, picked a note, and heard nothing but an ominous crackle. As the stage manager dramatically counted down from 20, I unplugged everything but my volume pedal and went straight into the amp. Suddenly my signal was back, louder than rehearsal and dryer than the Mojave. Because the part I planned on playing was based on the delays hitting three notes for every one I played, I had to improvise to cover some of the space. If you watch the performance on YouTube (The Voice 2015 – Lee Brice and Corey Kent White: "Drinking Class"), you'll see me turning around during the opening shot as I try one last time to get the amp's reverb to work. No go. Although I missed hearing all the sweet ear candy I'd planned, my somewhat underwhelming part worked. Not a home run, but I hit the curve and made it on base.

Fast-forward two weeks: I'm more relaxed and not fighting off a stress-induced psychotic breakdown. *The Voice* snafu reminded me of something in *Super Brain*, a book by Deepak Chopra and Rudolph E. Tanzi. It explains that when we panic, our "reptilian brain" (the amygdala and other bits of the limbic system) throws a mutiny, takes control, and releases a chemical called glutamate that makes you either freeze or involuntarily jump. I don't think I jumped when my gear didn't work, but I did spend a few seconds staring blankly into space until a hot hit of adrenaline sent my heart and blood pressure soaring in preparation for flight or fight. Neither option would have helped me much on that gig.

Super Brain maintains there's a constant battle between our limbic system and our more advanced brain. Luckily, we are not our brains. If you're doing it right, your mind is in control making your brain your bitch. The challenge is that the sound of rational thought is often quieter than the crazy voice of fear in your head combined with the rush of stress-triggered chemicals flooding your body.

This may sound new-agey, but I've been trying to be more aware of how my brain and body react in my normal day—particularly when I'm playing guitar. Here's what my newfound attempt at self-awareness reveals: Even though I record often, I notice my heart races a bit for the first few clicks of a session nearly every time a red light comes on. Also, when I play in front of an audience, be it one person or thousands, I feel my body tense up and I quit breathing when I have to play something difficult. A little nervous tension isn't unexpected in these scenarios, but something else surprised me.

If I'm alone with nothing to do at the end of the workday, I'll often grab my guitar and play for fun with my metronome as my dog lies in the yard. For me, it's the most tranquil setting imaginable. Here in my calming Fortress of Solitude with absolutely no reason to be nervous, I've noticed I still quit breathing and tense my shoulders when I try to play something difficult. As a test, I recorded my mindless porch-dog-metronome jam. Playback revealed I rushed during the challenging parts, as if adrenaline was commanding my fingers to flee. I began to concentrate on taking slow, deep breaths through my nose as I played, rather than thinking about what my fingers should be doing.

By focusing on breathing, my mind can stay in control and my fingers will do what they've been trained to do. At least that's what I'm working toward. Right now, I still catch myself holding my breath during finger acrobatics.

Hitting the curve is about remaining calm and in control, so your body can do what you've trained it to do. The benefits of this can go way beyond improving your musicianship. Try to become aware of situations that trigger your lizard brain, like when you're stuck in traffic, having a disagreement, or just feeling annoyed at people. Breathe deep—you've *got* this.



JOHN BOHLINGER *is a Nashville musician who has led the band on NBC's* Nashville Star *and served as musical director of the* CMT Music Awards *for the last six years. In addition to his "Last Call" column, John recently joined* PG *as our full-time gear demo/Rig Rundown video dude.*

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PREMIER Guitar

AMP

PRODUCT SHOWCASE

p. 11



WELCOME TO THE *PREMIER GUITAR* AMP PRODUCT SHOWCASE.

To complement our coverage of amps in this issue, we've included this special promotional section that puts the spotlight on even more amplifier madness. You'll see a parade of new gear from a variety of manufacturers with detailed specs and convenient links to video and audio demos along with information on where you can go to play and/or purchase the gear!

FRYETTE AMPLIFICATION

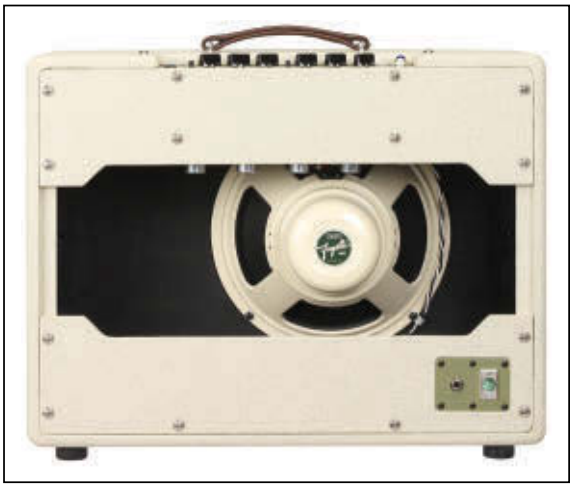
Aether

Sonics Snatched from the Heavens

Hand wired and hand built in Los Angeles, CA.
Super responsive, from gorgeous clean to full saturation.
Amazing sensitivity.
Dynamic "Push" Tremolo.
25 Watts cathode biased.
Accutronics Reverb
Preamp:
Bright, Volume, Treble, Bass, Tremolo, Speed, Intensity, Reverb.
1 - 12AX7TS
1 - 12AX7A
1 - 12AX7WA
1 - 12AT7
Power amp module:
Power, Standby, Ambience.
2 - 6L6
1 -6SN7
2 - 5Y3, Dual rectifier tubes in complementary operation.
Fane special design A60S, Alnico speaker



Street price: $4,449
fryette.com



FRYETTE AMPLIFICATION

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SUPRO USA

Tremo-verb



The 1622RT Tremo-verb is a feature-rich update to the coveted late-60's Supro 1x10 combo platform. This compact, Class-A, 6973-powered bruiser pushes a LOUD 25 watts through our custom-made 10" speaker to capture the old-school Supro magic in an amp you can easily haul around to gigs. Tremo-verb is, without a doubt, pound-for-pound the most potent tube amp in the USA Made Supro line.

The Tremo-verb's feature set, blue rhino hide tolex and compact physical dimensions are drawn from the original combo of the mid 60's, with its power plant borrowed from its larger brother, the 1624T Dual-Tone. This modern incarnation of the Supro Tremo-verb has been enhanced with enough Class-A power to gig out alongside a pounding drummer and bassist.

Following traditional Supro fashion, the new Tremo-verb's power-tube tremolo comes after the reverb pan, lending an ethereal shake and wobble to the enveloping wash of tube-driven spring reverb.

Street price: $1,299
suprousa.com

SUPRO

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MESA/BOOGIE®

Mark Five: 25™

The Mark Five: 25™ from MESA/Boogie® provides a "greatest hits" collection of their renowned MARK Series amps packaged in a shockingly small 16.5 pound professional grade amp. Drawing from MESA®'s Dyna-Watt™ 2xEL84 power section, this latest MARK delivers 2 fully independent Channels with 6 style Modes. Channel 1 features CLEAN, FAT or CRUNCH Modes with a Multi-Watt™ power switch for 10 or 25 Watts. Channel 2 features the legendary MARK IIC+, MARK IV and XTREME Modes with a Multi-Watt™ Power switch for 10 or 25 Watts. MESA's selectable 5-Band Graphic EQ adds infinite tone shaping and here it's footswitchable, Channel assignable or bypassable. Rounding out features you'll find a classic all-tube, spring reverb with independent Channel control, fully buffered tube FX LOOP and built-In CabClone™ Cabinet Simulator with CLOSED-BACK and OPEN-BACK voicings, internal load and HEADPHONE output. The Mark Five: 25 is handcrafted in Petaluma, California.



Street price:
$1299.00 (Head),
$449.00 (1x12 Mini Recto® Slant Cabinet)
mesaboogie.com

MESA ENGINEERING®

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MESA/BOOGIE®

Recto®-Verb™ 25

The Recto®-Verb™ 25 is the latest addition to MESA/Boogie®'s popular Rectifier® series offering classic Dual Rectifer® sound in a compact format plus Reverb. Available in a lightweight head, combo or rackmount head, the compact Recto® offers 2 Fully Independent Channels with 10/25 Watt Multi-Watt™ Switches, 4 Style Modes, plus a long spring all-tube reverb and fully buffered FX LOOP. Channel 1 features CLEAN or PUSHED Modes while Channel 2 features legendary VINTAGE or MODERN high gain Modes. The amp is the first to feature the company's Fillmore FM 75 speaker, the culmination of a nine year effort that saw over 500 custom prototypes from the world's leading speaker manufacturers in the design process. As with all MESA® products, the Recto-Verb 25 is handcrafted in Petaluma, California and a wide array of custom options are available.



Street price:
$1099.00 (Head),
$1099.00 (Rackmount Head),
$1249.00 (1x12 Combo)
mesaboogie.com

MESA ENGINEERING®

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FUCHS AUDIO TECHNOLOGY
ODS II



The Fuchs ODS-II represents an entirely new chassis platform which brings the greatest range of tonal flexibility and features to the legendary Fuchs ODS platform. Both of the two independent channels have identical preamps with 3-position bright and eq switches, a deep switch and a dual frequency mid boost and, gain boosts and tone stack bypasses for the widest gain range. Channel-I delivers luscious sparkling cleans through mild crunch via a dedicated channel master volume. Channel-II features an additional drive stage with its own input, channel output master with an OD tone control for the ultimate in drive tone flexibility. A global master and accent control feeds the dual effect loops. The amp has rear panel external bias controls with precision digital LCD current metering for each power tube, a deep lush digital reverb with level and decay controls, custom transformers, 4-8-16 ohm outputs, 50 & 100 W models .

Street price: $3,995 for 50 watt and $4,295 for 100 watt
fuchsaudiotechnology.com

FUCHS AUDIO TECHNOLOGY

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LERXST AMPLIFICATION

Chi

The Lerxst Chi is Alex Lifeson's new signature 15 watt 1×12 combo amplifier. The amp has all the growl and tone of its bigger brother, the Omega, but in a compact package that won't blow your windows out and upset the neighbors.

Power Output: 15 Watts
Loaded with a Celestion G12M-65 Creamback 8 ohm speaker
Selectable Impedances: 4, 8 or 16 ohms
Turret board construction
Carbon comp resistors
Mojotone Dijon coupling capacitors
Heyboer Transformers
CTS pots
Three JJ 12AX7 preamp tubes and two JJ 6V6 power tubes
Shared three-band EQ
Serial effects loop
Hand-wired in Burgaw, NC USA

Street price: **$1,895**
lerxstamps.com



Lerxst

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RADIAL ENGINEERING
Headload Guitar Amp Load Box



The Headload is a combination load box and attenuator that is capable of handling up to 130 watts RMS. Inserted between the head and cabinet, it allows the guitar amp to be driven hard while reducing the output level to reduce the sound pressure on stage or provide the means for quiet recording in the studio. This enables the artist to optimize the tone without having to perform at ear-blistering levels. In addition to the 8 Ohm speaker cabinet outputs, the Headload comes with a built-in Radial JDX direct box. This is coupled with a 6-position voicing switch and 2-band EQ that lets you choose the desired amp and cabinet emulation. For engineers who prefer to combine a microphone with a direct feed, the Headload has also been outfitted with a Radial Phazer - phase alignment tool. This enables the stage tech to align the direct feed with the mic and dial-in the ideal mix on stage.

Street price: $899.99
radialeng.com

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BOOTLEGGER
Blues 30

The Bootlegger Blues 30, born an outlaw and ready to play the hallowed grounds of the deep south where whiskey-soaked guitar tones call. Steeped in tradition and not convention.

This 30 watt, all tube amp paired with a 12" specially-voiced Emminence speaker, is steeped in tradition (not convention) with two matched Ruby 6L6's and three Ruby pre-amp 12AX7 tubes. The Blues 30 delivers uncompromising tone at any volume.

Clean tone, like a fine shot of reserve, or cranked for early break up like Papa's moonshine, the Blues 30 will turn heads no matter where you're gigging.

Find one at zZounds.com!

Street price: **$999**
bootleggerguitar.com



BOOTLEGGER

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PRS GUITARS

HXDA 30 Head

The PRS HXDA underscores the flexibility of the 25th Anniversary amp while capturing the iconic tones of late 1960's/early 1970's rock. The Cinemag output transformer provides a familiar voice and the addition of three switches (that control the amp's brightness and gain) add tonal flexibility by making key component's "lead" specs. This amp delivers a tone equal to the revered smooth, fat, singing, less gainy tone of 1960's and 1970's holy grail amps.

Street price: **$2,899**
prsguitars.com



PRS PAUL REED SMITH GUITARS

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PRS GUITARS

DG Custom 30

After extensive designing, we have come up with an amp that blows me away. I've used it on hundreds of gigs and sessions and found it equally well suited to both live and studio work." – David Grissom. The DG Custom 30 brings Grissom's tone to players looking for a highly-responsive, musical amp, featuring four EL84/7581 power tubes and several tone-sculpting features, including bright switch, reverb, boost/normal gain switch, presence, and top cut contols.

Street price: **$2,899**
prsguitars.com



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PRS GUITARS

Archon 25

From the largest stage to the practice room, PRS Archon amps are versatile and commanding tools for musicians who want a flexible, modern amp. The Archon's 6L6/EL34 tube option is replaced with 5881's, offering extended high end while maintaining the Archon's signature crunch. The Archon 25 keeps the Archon's two channel platform, providing aggressive high-gain tones and sparkling cleans in a low wattage tube combo that is perfect for the stage, studio, or at home.

Street price: $1,299
prsguitars.com



PRS PAUL REED SMITH GUITARS

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PRS GUITARS

2 Channel Custom 20 Combo

Keeping all the versatility of its big brother, the 2 Channel Custom 20 Combo is easier to transport and use in smaller clubs, rehearsal spaces, and the living room. Two 5881 power tubes coupled with a Heyboer output transformer crank out a muscular 20 watts, offering spanking clean tones to slightly over driven rhythm tones on the clean channel, then crunchy to blistering overdrives on the lead channel without breaking a sweat.

Street price: $1,549
prsguitars.com

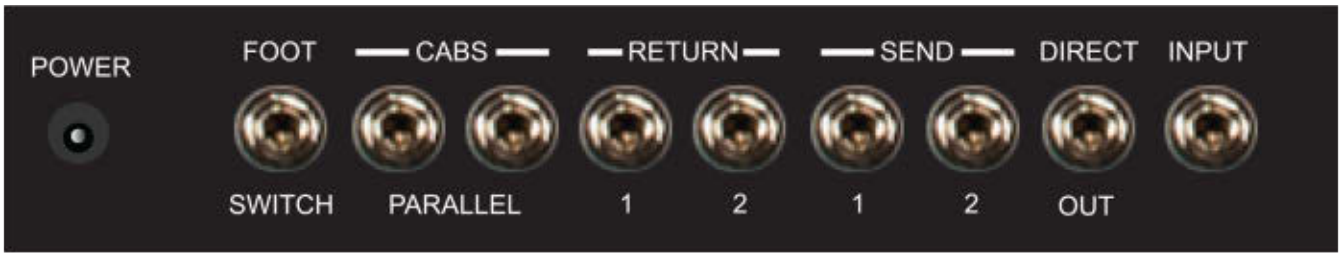


PRS PAUL REED SMITH GUITARS

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DIAMOND AMPLIFICATION, INC.
Dual Amp Selector





The Dual Amp Selector, co-designed by Diamond Amplification and Bob Bradshaw (Custom Audio Electronics), safely and correctly allows the sharing of 1 cab (or 2 in parallel) for 2 amplifiers with the ability to switch between them on the fly. Pro quality and hand-made in Texas, it features 2 cabinet outs (parallel), 1/4" switching, buffered and passive inputs, direct out, fully isolated outputs and a front-panel switch to assign for tube or solid state. Switch amps for different tones, switch to a backup, or conveniently wire your home or studio setup. The Dual Amp Selector can be daisy-chained to switch more amps as well. All high end components, top quality hand construction, and completely safe, even with trailing effects. Build the rig you've always wanted and without the need for additional load cabinets. The Dual Amp Selector will handle it with ease.

Street price: $399
dualampselector.com



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TECH 21 NYC

dUg Pinnick Signature Ultra Bass 1000



2-channel bass head with all-analog pre-amp and 1000-Watt Class D power amp. Designed in collaboration with dUg Pinnick to create a single amp capable of achieving the unique sound he developed by running a guitar and bass amp together, along with a rack of effects, to merge high-end distortion with low-end bass.

The unconventional design intent is to use both channels mixed or the Bottom channel alone. The Top channel handles distorted guitar amp tones while the Bottom channel provides a clean pre-amp and compressor for more traditional bass amp sounds. Mixed together, you get dUg.

Other features include three SansAmp XLR Outputs, 10dB gain boost, active EQ, master volume, effects loop, Neutrik Speakon® outputs, included triple-function footswitch.

All of the controls and functionality reflect dUg's personal, perhaps conceptually unusual, specifications. That's what makes it a dUg Pinnick Signature amp.



Street price: $2,495
tech21NYC.com

TECH 21

DESIGNED AND MANUFACTURED IN THE USA

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RANDALL AMPLIFIERS
EOD88



Some things in music are obviously inspired. There is a famous interview with Ozzy in which he talks about how Black Sabbath's sound evolved in the early days: "We were just a blues band and then it took on an ELEMENT OF DOOM..."

So, In the spirit of that early pioneering of heavy metal, we have created the EOD88. With 3 gain modes, KT88 power design and a built in fuzz circuit, this amp personifies old school but within a fresh modern approach and appeal.

DOOM amp, all tube 12AX7/KT88 with 3 switchable gain modes, built in fuzz circuit, discrete class A instrument level loop, footswitch included. Limited Edition red covering.

Street price: $999.99
randallamplifiers.com

Randall AMPLIFIERS

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RANDALL AMPLIFIERS

KH103



The real deal. Kirk Hammett's NEW signature Randall KH103 stage and studio amp embodies the musical instincts of a legendary metal guitarist.

120 watt 3 channel all tube mega amplifier: 3 Channels. 3 gain and volume controls with 3 way bright switch for each. Presence and depth controls. Dual switchable master volumes. Dual switchable series/parallel loops. 7 MIDI assignable functions for each channel as follows: Channel select, Boost, Low/Medium/High gain voicing, master volume 1/2 select, Loop/Loop2 select, Store. Individual metering and bias controls. Footswitch not included (RF8 or RF4 suggested). Heavy duty metal front/rear grills, corners, edging, dual side handles for easy lifting.

Street price: **$1,999.99**
randallamplifiers.com

Randall AMPLIFIERS

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MOD KITS DIY

MOD102+



The MOD102+ expands on the same all analog vacuum tube classic American circuit design combined with a British style Class A output section as the Original MOD102 with some much added special "+" features. These special features include a three position progressive toggle switch for off-standby-power and additional push-pull functionality for each control - pull out the bass control knob for "mid boost", pull out the treble control knob for "bright", pull out the volume control knob for "turbo". These new features and a JJ ECC803-S (a long plate 12AX7 known for its complex mid range tones) allow for a wider variety of tones and extra control for the user.

Street price: $265
modkitsdiy.com

MOD™ KITS DIY
amps.mods.pedals

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HENRIKSEN AMPLIFIERS

The Bud

Truly gig-able volume and tonal quality in the smallest possible package. The Bud is 9"x9"x9", 17 pounds with 120 watts of analog power. You won't believe the volume and sound quality coming from either your electric or acoustic guitar as well as your vocal mic, and with a feature set that allows you the versatility to cover almost any kind of gig, this is a MUST HAVE piece of gear for the working musician.

Street price: $999
henriksenamplifiers.com



Henriksen amplifiers

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TELEFUNKEN ELEKTROAKUSTIK

Black Diamond Series Vaccuum Tubes

TELEFUNKEN vacuum tubes have been the benchmark of excellence in all audio applications for many decades. This rich history continues with the introduction of new production tubes from TELEFUNKEN Elektroakustik.

Each tube is meticulously measured for all critical parameters of performance including transconductance, gain, noise, and microphonics. In addition to the rigorous testing procedure, all new TELEFUNKEN tubes are cryogenically treated to ensure durability, and subjected to an extended burn-in period to ensure superior stability.

Street price: Varies
telefunken-elektroakustik.com/products/tubes/





TELE FUN KEN Elektroakustik

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TWO-ROCK
Studio 50-15

Clean. Cool. Clever.

Clean-The 50/15 features a simple pedal-friendly input stage designed to be the perfect platform for you and your music. Treble, Middle, and Bass controls each with their own pull-shift function allow you to tailor the voice of the amp to match your style.

Cool-There's nothing like the feel and sound of a large output transformer and 6L6 power tubes. Players love big-stage volume and big-stage tone, but many neighbors and studios do not. The switchable power design, allows you to achieve that big feel and tone wherever you go.

Clever-Effects loops on amps are either passive or active – 50/15 is both. This loop can be passive or active and has switchable buffers and switchable level controls for both the Send and Return side of the loop. This design allows you to interface with vintage and modern effects without the worry of sacrificing tone or feel.

MAP: $2,195 combo / $1,995 head
two-rock.com



Two-Rock

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TONE KING
Falcon Grande

The 20W, 1x12" Falcon Grande combines the sonic purity of a simple Volume/Tone single channel design with the flexibility of a footswitchable 3-position voicing switch, to deliver 3 distinct flavors of old-school vintage tone inspired by classic amps of the 50s and 60s.

The Falcon Grande's spring reverb circuit is inspired by the vintage outboard units of the 1960s, and includes both Dwell and Reverb Mix controls. This gives you the ultimate flexibility in dialing in your ideal reverb sound - from subtle to lush and surf-ready.

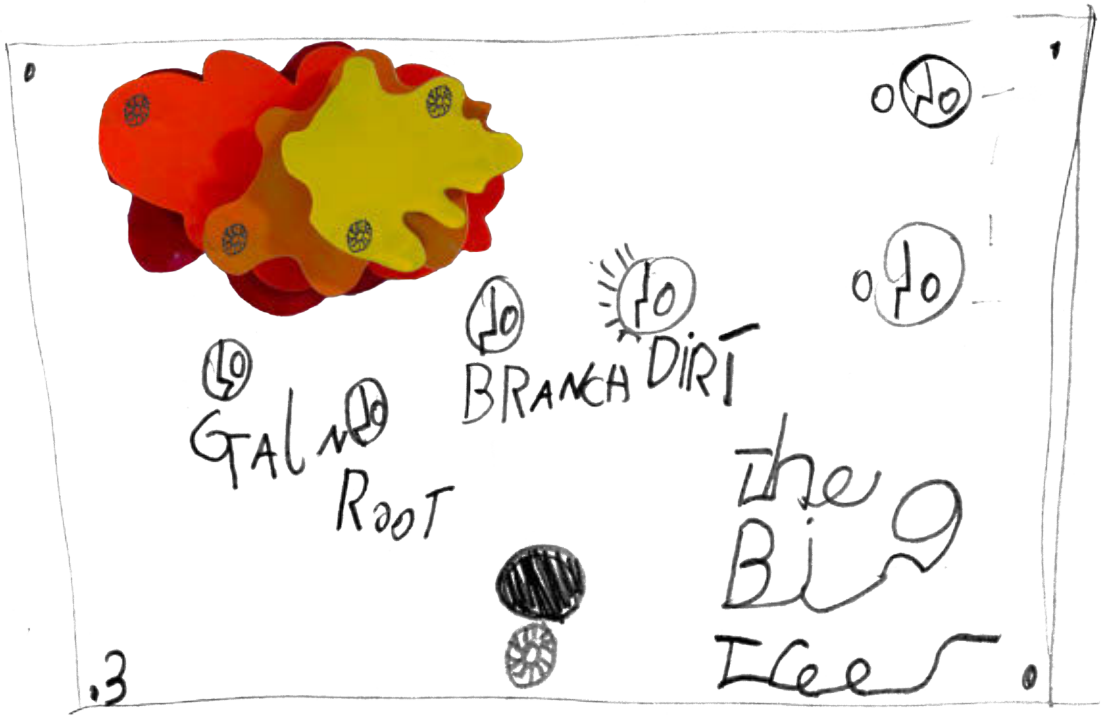
The built-in Ironman II attenuator features a tuned reactive load, innovative compensation circuitry, and 6 levels of attenuation, to deliver the same authentic vintage tone at any volume level. A 4-button footswitch with LED indicators allows you to control the reverb and select between the three voicing's.

MAP: $2,395
toneking.com



BUY IT NOW FIND US ON FACEBOOK

AUDIO KITCHEN
The Big Trees



The Big Trees is a 2.5W, all valve, Class A amp and versatile preamp - at home live or in the studio.

Handcrafted at our workshop in West London, it is built around one each of 12AT7, 12AX7 and EL84 valves. The harmonic-rich tone, sculpted by its Baxandall-based EQ and 'EL84 headroom control' is delivered to a cab via the Speaker output, and to its valve-driven Line output. Signal at the Line output is either post power-amp stage, or discreet, all-valve clean stage for empyreal DI tone.

An ever-expanding community of users* are finding The Big Trees to be the 'Swiss Army knife' they never knew they needed. So whether you require a guitar front end for a DAW/ clean gain/ DI/ line driver/ amp or reamp; The Big Trees wins.

*Noel Gallagher, DCFC, NIN, Foo Fighters, Bon Iver, Peter Buck, Coldplay, U2, QoTSA, MUSE, Reeves Gabrels, Judah Bauer...

Street price: **£600**
audiokitchen.co.uk

Audio Kitchen

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PANAMA GUITARS

Inferno 100W

The Inferno 100 is a fully featured 4-channel 100-watt all-tube amplifier designed to deliver the massive bottom-end that only can only be experienced with a 6550 power section. Its 4 completely independent foot-switchable channels with 2 assignable master sections make it tough to beat in terms of flexibility. The Inferno 100 features a stunning Spanish Cedar and Red Zorrowood cabinet handcrafted in Panama and wrapped in the company's signature two-tone Antique Graphite and Scarlet Tolex.

Street price: $1,499
panamaguitars.com



panama GUITARS

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CARR AMPLIFIERS

Skylark

The ultimate low-power American inspired amplifier! The Skylark idea began with our love and appreciation for classic home/ student 60s American amps These small – student amps deliver organic tube juice and vibe at real world volumes – making them super usable and super satisfying Our Skylark takes this fun utility a giant leap forward Reverb, a built in power attenuator, Hi/Low gain switch, and the extended range presence control.

Street price: $2,390.00
carramps.com



CARR AMPLIFIERS

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ISP TECHNOLOGIES, LLC

Theta Pro DSP



ISP Technologies ThetaPro DSP™ is a floor controlled guitar system with a fully programmable digital Theta preamp, Vintage preamp, Virtual Speaker and Studio quality effects processing. ISP takes a departure from the modeling processors and hands the guitar player the audio clay. For the PRO player who wants their own sound, the ThetaPro DSP delivers. ThetaPro DSP is based on ISP's new hardware using a 32 bit floating point processor, the latest audio converters and delivers over 124db dynamic range. Based on ISP's proprietary oversampled clipping algorithm, the ThetaPro is the only digital preamp that can offer massive amounts of usable gain without any aliasing or noise. ThetaPro allows preamp adjustment of tone, gain, saturation and "SAG" to provide the dynamic of tube amplifiers. The ThetaPro DSP is the best high gain digital preamp and also amazing for any playing style from clean to jazz to blues to classic rock.

Street price: **$1,559**
isptechnologies.com

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KEMPER
Kemper Profiler



The Kemper Profiling Amplifier is capable of reading the sonic DNA of guitar amps into its brain. Now guitar players can create the most unique and individual amp tones that reflect the very essence of the individual player, and then capture these exact sounds into the digital domain with Kemper's unique profiling technology.

The Profiler is the perfect solution for guitar players who want all their needed FX and the tones of their own amps in one comfortable package. Profiler owners share profiles of their amps via the Rig Exchange.

The optional Profiler Remote pedal seamlessly integrates with the Profiler and is the perfect solution for Live Performances with the Profiler.

The Profiler is available as Head and Rack. Both are also available with a built in 600 Watt power amp.

Street price: $1,980.00
kemper-amps.com

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XITS SOUND

X10

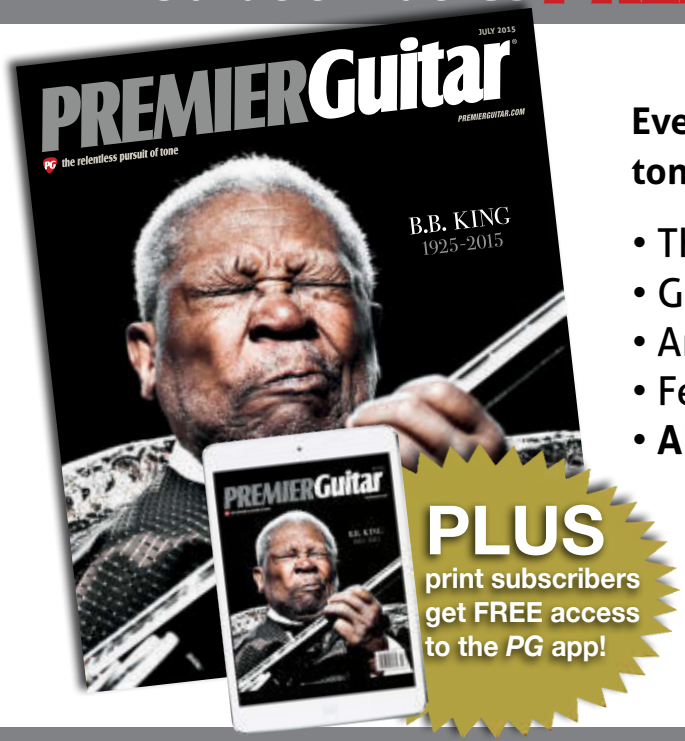
Two years in the making and the result of our relentless striving for the perfect combo amplifier, the new X10 is a 17 watt powerhouse with incredible dynamic range, from sweet, articulate clean tones to three dimensional saturated overdrive. With a huge sound and fantastically interactive volume and tone controls, this spirited amplifier gives your guitar voice a bold sonic pallet of colors that sing in any playing situation, from stage to living room.

Street price: $2,183
xits-sound.com



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BENSON AMPS

Benson
Monarch mkii
Street: $1,800
(503) 726-6264
bensonamps.com



The Monarch is a uniquely versatile amp able to go from British bark to American warmth, and can be tailored to your taste with custom component choices. The Monarch features point-to-point wiring, dovetailed pine cabinets, and is made by hand in Portland OR.

Benson amps
HAND MADE IN PORTLAND, OREGON

VFE PEDALS

Pale Horse Dynamic Overdrive
Street: $199
vfepedals.com



The Pale Horse started as a personal quest to improve the most widely used overdrive circuit. Chasing down the answers led to a unique design that addresses all the criticisms of that classic green stompbox. The Pale Horse is so smooth, transparent, and dynamic, you might even find yourself using it instead of your own amp's distortion. Like all VFE Pedals, you can customize the color, graphic, knobs, and more through the Pedal Wizard!

VFE

BEARFOOT FX

Honey Bee
Street: $199
bearfootfx.com



The Honey Bee continues to be a touchstone of tone ... originated small amp emulation over ten years ago anc continues to be the truest feeling and sounding of the 'small, warm and worn' sonic homages.

The Honey Beest took this sound up a few notches b adding a sculpted preamp into a slightly reformulated Honey Bee that was more suited to higher gain and volume usage.

The Honey Bee and the Uber and Beest cover a wide range of applications for the often imitated, legendary Bee sound.

BearFoot Guitar Effects

ROCK SOLID GUITAR STANDS

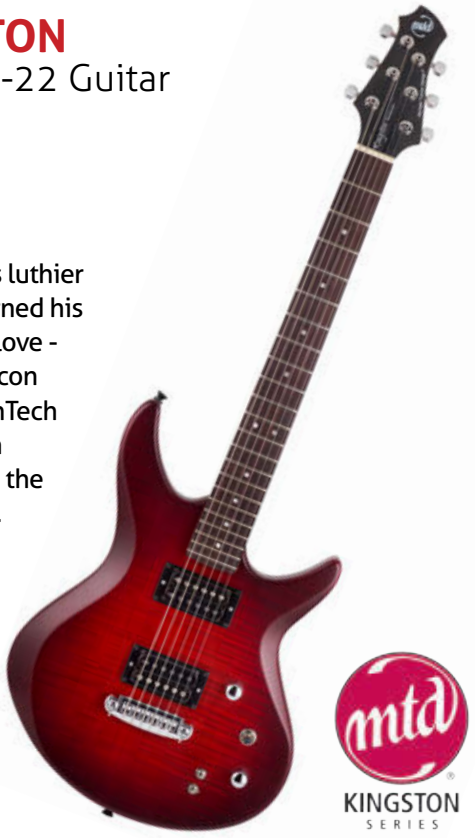
The Elite Six
Street: $299
(262) 320-7747
rocksolidguitarstands.com



Introducing The Elite 6 from Rock Solid Guitar Stands Made of solid mahogany, this is our most "Rock Solid" guitar stand yet! With its beautifully rounded edges and solid construction, The Elite 6 can truly be labeled as furniture-grade Like any of our previous models, this guitar rack can be the perfect compliment to your home or studio, putting your favorite axes on display – you might find yourself playing a bit more as well!

MTD KINGSTON

MTD Rubicon 6-22 Guitar
Street: $799
(800) 741-0109
mtdkingston.com



World Renowned bass luthier Michael Tobias has turned his talents to his original love - guitars. The MTD Rubicon 6-22 is a 22 fret GraphTech Resomax hardtail with incredible sustain and the well known MTD tone. Available with maple or rosewood fingerboard. Trans Red gloss finish or Dr. Browns Burst (cherry cola) satin finish. Also available in 24 fret tremolo.

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Guitar Picks-Rock Apparel- Guitar Pick Jewelry- Guitar Accessories
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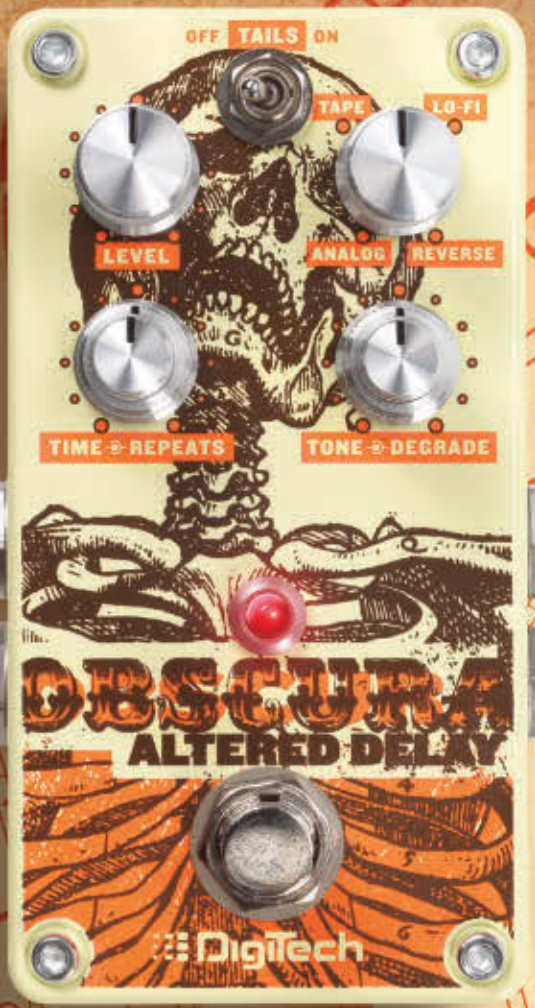
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DigiTech by HARMAN



DESTROY TIME

Destroy time with the Obscura Altered Delay from DigiTech. Its four delay modes can be darkened, degraded, and distorted on the fly with the stacked Tone and Degrade controls. Combine these controls with Repeat/Hold and lose yourself in long trippy, gurgling repeats or manipulated backwards sonic mayhem. Obscura also has excellent sounding Analog, Tape, Lo-Fi, and tap tempo modes with beat divisions, stereo in/out, tails switch, and true bypass.

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Lerxst^{x}

BY ALEX LIFESON OF **RUSH**

"I've used more amps than Dr. Frankenstein did breathing life into his creature, but the ***Lerxst Chi*** *is an awesome monster in its own right and one of the sweetest sounding amps I've ever heard. All the great character of the Omega in a cool, compact package that you don't have to be a seven foot monster to carry around."*



15 Watt 1x12 Combo

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